

RIVISTA MILITARE

JOURNAL OF THE ITALIAN ARMY FOUNDED IN 1856



JANUARY
FEBRUARY
1988

E 4,000
\$ 4
L. 6
£ 3



VITTORIO BERNARD

The Role
of the Army
Within Nato



RAFFAELE SIMONE

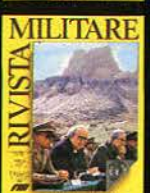
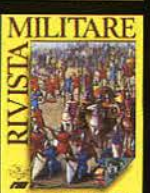
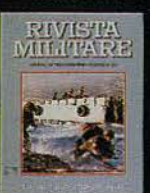
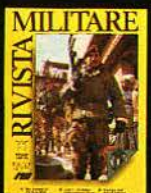
Training of
the Future
Army



GOFFREDO CANINO

Military
Service for
Women

L'IMPEGNO DELLA RIVISTA MILITARE





European
Military Press Agency

**RIVISTA
MILITARE**

BIMESTRALE

Direttore responsabile
Pier Giorgio Franzosi

Direzione e Redazione
Via di S. Marco, 8
00186 Roma
Tel. 47357373

Pubblicità
A cura della segreteria
dell'Ufficio Rivista Militare
Tel. 6794200.

Stampa
Tipografia FUSA Editrice s.r.l.
Via Anastasio II, 95 - 00165 Roma

Spedizione
in abbonamento postale
Gruppo IV - 70%.

Condizioni di cessione per il 1988
Un fascicolo: Lit. 4.000
\$ 4 - DM 7 - £ 3
Un fascicolo arretrato: Lit. 8.000
\$ 8 - DM 14 - £ 6
Abbonamento Italia: Lit. 22.000
estero Lit. 30.000. L'importo deve
essere versato su c/c postale
n. 22521009 intestato a
SME Ufficio Rivista Militare -
Sezione di amministrazione -
Via XX Settembre 123/A - Roma.
I residenti all'estero possono
versare l'importo tramite assegno
bancario o vaglia internazionale.

Autorizzazione del Tribunale
di Roma al n. 944 del Registro
con decreto 7-6-1949.

CONTENTS



Number one 1988
January-February

The aim of Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.

Politics, Economics and Strategy

- 2 1st British Corps and British Army future
(Paolo Valpolini)
- 12 The Italian Industrial System
(Luigi Lucchini)
- 20 The Role of the Army Within Nato
(Vittorio Bernard)
- 30 New Technologies and Procurement Policy
(Luigi Federici)



Science, Technology and Training

- 38 Training of the Future Army
(Raffaele Simone)
- 45 Defensive Operations
the Publication 900/A



Sociology and Staff Problems

- 50 Recruitment and Prospects of the
Yield of the National Service
(Franco Faina)
- 56 Military Service for Women
(Goffredo Canino)

History

- 62 Forts and Shelters of the Dolomites
(Daniele Ravenna)
- 68 Book Reviews



Rules for contributors. Anyone can contribute. In the interest of the maximum objectivity of information, Rivista Militare allows contributors considerable freedom, although it does not necessarily subscribe to their opinions. The articles are published unedited and free of any editorial constraints and are therefore the sole responsibility of the Author and reflect his personal ideas exclusively. The topic must be treated in an original way and the articles themselves should not exceed 10 typewritten pages in length. The Author, got his reward, makes over his exclusive article right to Rivista Militare. Rivista Militare can make over Author's exclusive article right to other publications and to the periodicals of EMPA (European Military Press Agency). The articles should be accompanied by the necessary photographs, drawings and explanatory tables. Each Author is requested to send a photograph of himself, together with his "curriculum vitae" and a 10-line summary of the article to be published. Rivista Militare reserves the right to alter the article's title and to choose the typeface in which it is set.

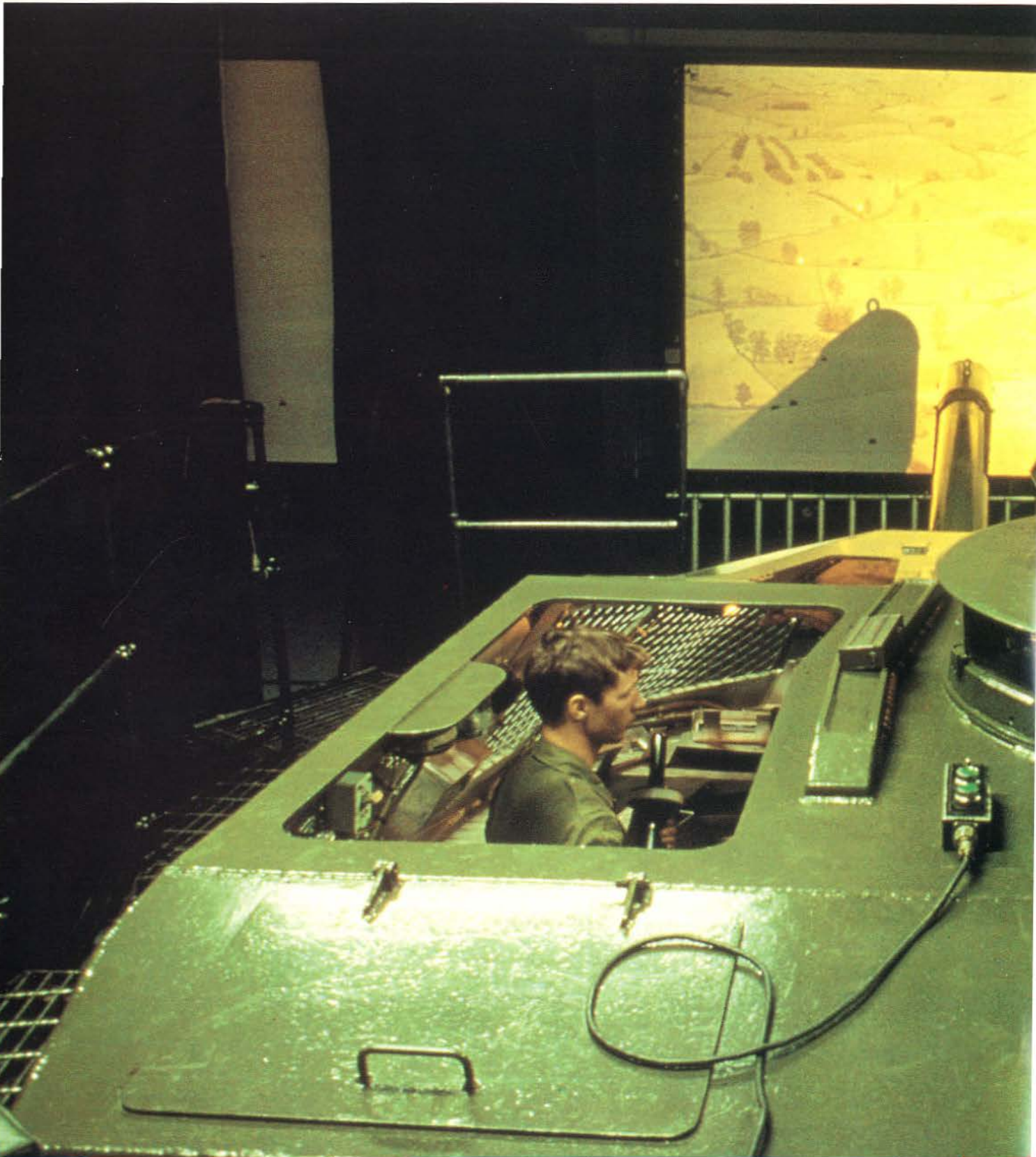
© 1988

Proprietà letteraria artistica
e scientifica riservata



Member of USPI
Unione Stampa
Periodica Italiana

1st BRITISH CORPS AND



BRITISH ARMY FUTURE

Interview with Lt. General Sir Brian Kenny,
KCB, CBE, 1st British Corps Commander

The 1st British Corps is the ground combat element of the British Army of the Rhine (BAOR) and is made of three armoured divisions, 1st, 3rd and 4th, all stationed in Germany, and one infantry division, the 2nd, stationed in the United Kingdom. For its NATO commitment the 1st British Corps is assigned to the Northern Army Group (NORTHAG) and it is tasked for the defence of the area between Hannover and Kassel, with the 1st Belgian Corps on its right and the II German Corps on its left.

We meet Sir Brian Kenny in his headquarters in Bielefeld, before he leaves his present position to become Commander -in-Chief of the British Army of the Rhine.





In the last months there was an evolution towards the limitation of nuclear weapons, and in Geneva the "double-zero" option seems to become a reality. Which should be the military consequences at the 1st British Corps level?

What I have to say is that my job as Corps Commander is to fight a conventional battle, my job is to defeat the enemy with conventional weapons, and to fight the tactical battle. If for any reason we should fail to achieve that, then obviously the tactical nuclear weapons will be used and the effect of the "zero-zero" option at my level is that we will still have our tactical nuclear weapons and all I would say is that they will assume a rather greater significance than they had in the past. I don't see my role changing and I think I will fight a tactical and conventional battle.

The 1984 exercise, Lionheart, can be considered the beginning of a new era for BAOR and 1st

Corps; since then most of your units received new equipment. Which changes did they bring into the 1st Corps operations and how much did they enhance your fighting capabilities?

I think that to say it is a new era in fact is a bit premature; although we have seen some new equipment on Lionheart, they were the very beginning, they were the trailers for the major equipment program. What I would say is that the real significant changes come in two waves and started last year.

The first one is the revised NORTHAG concept: we can now say that we are quite away from the rather static defensive battle and we now fight a much more dynamic and aggressive battle; we now fight a much more cohesive and coordinate battle right across all Corps in NORTHAG; we are now all four fighting a NORTHAG concept of operation which we were not some years

The Challenger tank gave the British armoured units a much greater mobility and flexibility than the ones they were used to with the older Chieftain.

ago, when we were still fighting our own independent battles, eating off our reserve in the tactical battle. We now in the present concept accept that we have larger reserves for use at operational level to inflict a decisive blow and to regain the initiative under the direction of the Army Group Commander. I now fight the tactical battle at tactical level, and COMNORTHAG fights at Theatre level, allocating reserves. And of course the other significance of the is that my reserve division, as do the other reserve divisions, has got to be prepared to operate in any Corps, which is a great stress in training and interoperability. I think this is the first significant change.

We then go to equipment and I think it is fair to say that this is probably the biggest re-

equipment program the Army will see for many years; what is going on will enable us to carry out the new concept much more effectively and much more convincingly. And I would say the same for our tactics: I won't say there have been any dramatic effect on our tactics. What I think in very general terms is that the new equipment has now improved our capabilities in a number of areas and I will give you some examples: on the command and control side, with Ptarmigan and Wavell the reaction is much quicker, the passage of orders is quicker; in terms of operational concept, the ability to move a division is much slicker and quicker. If I look at the actual punch that we deliver, Challenger and Warrior coming in are dramatically affecting our firepower and our mobility, and really speed up our reaction. We are better protected, both for our infantry and our armour. The firepower of the artillery is greater and will augment particularly when we will get the MLRS. With the introduction of thermal imaging we are now better equipped to fight a night battle and therefore a 24 hours battle. And I think our ability to gather information with the new surveillance and target acquisition system will give us a wider dimension in terms of information gathering. Finally, we are re-mechanizing an armoured brigade and this is a gain of a greater punch, while the permanent airmobile brigade which will be formed in England gives me another arrow to my bow.

The artillery is the Arm which is having the most quicker evolution; which problems and delays may arise with the abandon of the SP-70 project and what is changing in the British Army Artillery due to the acquisition of new weapon systems?

Speaking about SP-70 the future will really depend on what weapon will be selected to replace it, and I can say that at the moment five options



are considered, one being the augmentation of our M-109 howitzers; speaking as Corps Commander, I am concerned in getting more 155 guns, my real concern is to have the heavier shell. And I think that we should get that without too much delay, I hope within 1989, but it really would depend on the choices.

Speaking about artillery, we have altered our tactics in the 1st British Corps fairly recently, looking ahead. The significant change is that now the divisional artillery, known as the Divisional Artillery Group, is responsible for the fire support.

The Tracked Rapier is one of the improvements in air defence capabilities, being able to follow armoured units on the battlefield with comparable mobility.

A British infantryman armed with the Milan system equipped with the night vision device; the British Army is already thinking to the Milan successor.

At Corps level my artillery command is now responsible for the counter-battery fire and later on will be responsible for the battle in depth, although it can reinforce the divisional artillery if required; but there is a very clear division of responsibilities. In the old days,



until three years ago, the command of the divisional artillery was doing counter-battery fire; the reason behind the change is that we put a very great weight on the principle of mass. There is no point of firing one single battery on a target: we believe that three batteries is the minimum that we should be firing to give worthwhile effect on the ground.

Coming now to the battle in depth, we must say that we are talking about equipment that we have not yet seen. I am sure MLRS will dramatically change the way I am looking at the battle, because I will be able for the first time to influence what happens to the follow-on regiments 30 to 40

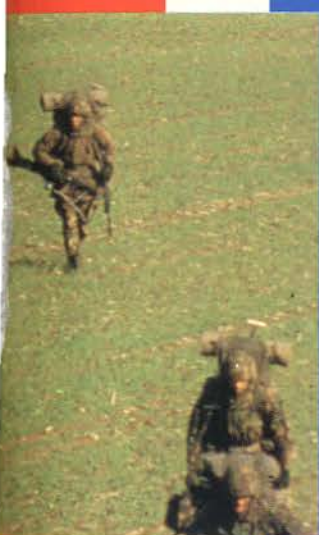
Kms away; but MLRS is going to be just as good as the surveillance and the target acquisition and C3I means which go with it and that is yet unproven. Therefore it is dangerous for anybody to say that the introduction of MLRS means that you can do without some other weapon systems at that particular moment.

Another important development on the gunnery side is air defence which will improve considerably with the Regiment armed with High Velocity Missiles, particularly for giving protection to the movements of our reserves; we also recently introduced a lot of medium machine guns that will give us more capabilities in low altitude air defence, and this is

a lesson from the Falklands.

In a professional Army as the British one, training must be kept at very high level in order to maintain motivation. What is your approach to that problem, considering the increasing constraints to military training?

With a professional army, and this is the great difference between a professional and a conscript army, you will get people with very high expectations who will remain in service for a number of years. Their expectations are very high, they need job satisfaction, and we are well aware of that. One of the important things we are trying to do is to put variety into their life; for instance we attach a lot of



importance to adventure training, skiing, canoeing, arctic survival, and to sports; the aim is to give people a challenge and I think that one of the most important things in the life of an officer or a soldier is to be faced with a physical and mental challenge. It is becoming more and more difficult, I think, to find that. Northern Ireland gives it to some people, but those who do not go there will find a challenge in another way, and there are many ways.

If I now look at the strictly military training, I think we have to recognize that financial and environmental pressures are going to make probably more difficult, as the years go on, to train as we have done in the

past, and therefore we are looking very much towards simulation, which I believe could be divided into three elements. The first one is command and staff training: it is quite difficult to put the commanders under pressure and to actually train your headquarters without going into the field. And therefore we have introduced the Brigade and Battle Group Trainer at Sennelager. We have just started to see how we are going to train Division and Corps level. Our Ministry of Defence recognizes that we must have computerized war games to train high level HQs, and we are looking at many systems. Going to the individual and crew training, and we are

The use of the helicopter for moving quickly airmobile units became a habit after the test with 6th Airmob. Brigade.

Artillery is getting a greater importance in the field battle; here a British FH-70 during a live firing exercise.

A ferry formed with M-2 rigs; the importance of river crossing capabilities is vital in the British defensive sector, also known as "water sandwich".

talking here about weapon trainers, we are still backward in that field; we recognized fairly late that there are considerable benefits from these simulators, saving time and ammunition and doing it more efficiently, and there are many proposals. The problem is to find money for it. The third element is combat simulation. We did two trials, one in



Bergen-Hohne last year, one in Canada recently, and that has undoubtedly shown that there are tremendous benefits for us to do it, because it slows the whole pace of the exercise down, it saves fuel, and it does it more realistic in terms of time, the night tactics change dramatically, people use the ground much better, there is more tactical awareness. However I must say that no simulation will replace live fire; simulators will only reduce and complement it. All these activities will help us to give our soldiers job satisfaction and motivation.

During the last three years the 1st British Corps tested the use of a highly mobile unit with heavy antitank capabilities. This unit is going to be re-mechanized. Which have been the results of that test and which will be the future for airmobile units within the 1st Corps?

We are re-mechanizing the 6th Brigade because we need it in our reserve Division. But our

trial showed very clearly that an airmobile brigade has a very critical part in enhancing our ability to carry out both the defensive battle and particularly the counterattack, and therefore what we have done is to transfer the role to one of our reinforcing Brigades in England, which is part of the 2nd Infantry Division. They will have in the future their own EH-101 helicopters because the level of an airmobile unit is directly dependent on the liaison and the familiarity between the pilots and those who climb in the back of the helicopters and therefore there will be an element of co-location in the north of England to enable that to be carried out. The second point is that they must train as often as possible over the ground on which they operate, and therefore they will come exercising in Germany as frequently as their availability and money allow. The actual roles of an airmobile Brigade are forward battle, counterpenetration, ambush, anti

A Harrier deployed in the field; these aircraft work very close with the Army, being its long arm for hitting the rear enemy area.

air-assault operations, any quick reaction action. For the counterattack I will see them used to secure start lines, to secure routes forward for possible reserves, flank protection. The other thing I would say is that if we get helicopters dedicated to our airmobile force, if we make the maximum use of the radius of these helicopters, it may well be that the Army Group Commander will wish to use them. And I think we will see a great requirement for air mobility right across NORTHAG, because if you look at the ground you can see that it is sometime difficult for armoured formations to move very quickly. One has however to recognize that an airmobile formation has its limitations: it can't stay in position for too long, it is employed for short term operations, and from the point

of view of fire support it needs external help. For the future, the question is what will replace the Milan, which is becoming increasingly less effective against tanks with active armour. We must find a weapon system that gives the unit a really good fire power: they are quite an expensive formation to put on the ground unless they have a really good antitank system, and we are looking to TRIGAT to solve the problem.

BAOR has a unique weapon system: the Harrier; how does the cooperation between the Army and Air Force work and what do you expect in the future?

We have now sleekened up our procedures for air cooperation, and I have a Commander Air in my Headquarters and an Air Support Operation Cell, and they are very closely integrated in the way we plan the use of all our fire support. I am very happy about the joint cooperation, it works extremely well, the reaction time is now much quicker that it used to be. About the Harrier role I would say that we look at it primarily for battlefield air interdiction on the 2nd echelon regiments. About the future and the Harrier GR.5, as far as I am concerned I must consider the weapons it will be able to deliver and I don't know yet which they will be. We look for weapons effective against massed enemy armour. What I would like to stress as conclusion on this point, is our concept of combined air-land battle.

Although it has been fought in a completely different scenario, which has been the feed-back from the Falklands conflict?

I was not there myself so I am speaking from lessons I have been fed back from other people. I think we had many feed-backs, for example the importance of leadership and of the chain of command, the value of artillery and air support, the importance of air



defence and, particularly from the morale point of view, the need for the troops on the ground to have guns that they could use against the aircraft, the need for mobility, the need to train at night, that we don't do enough especially with live ammunition, the preparation of the infantry positions, i.e. the basic infantry lessons.

A number of units under

A British Command Post in a Spartan vehicle; with the introduction of Plarmigan the communications, and therefore command and control, in the British Army have been considerably enhanced.

your command are part of the Territorial Army; can you depict us the importance of the territorial Army and the efforts which are made to keep them trained and well equipped?

Being a regular army we are short of reserves; therefore



British officers training at Brigades & Battle Group Trainer in Sennelager; simulation is getting a great importance for staff training.

we put a great emphasis on the Territorial Army. Some people don't realize that the majority of the Territorial Army troops have never been in the Armed Forces, they don't have a military background. Therefore it is important that when they do their training it is realistic, it gives them satisfaction and they feel it is worthwhile to give up their free time for us. We

must make sure that they are training as much as possible on modern equipment, and within the normal chain of command; that they exercise as often as possible out of England if their role is out of England. We depend heavily on the Territorial Army over here, we have two Territorial Army Brigades who are part of the 2nd Infantry division, and we have a considerable number of Territorial Army battalions to reinforce our forward Divisions; logistics is very heavily depending upon the territorial

Army. We cannot fight this battle or sustain it without the territorial Army, there is no doubt about that. As Corps Commander I have to recognize that the job which the Territorial Army can carry out must be limited and we mustn't expect more of them than their training allows; we must be very careful to make sure that operationally they are given realistic tasks to do, for which they also train in peace. We try to integrate them into all our formation exercises: an average Territorial Army battalion comes

to Germany every two or three years. In a long transition to war we will train those people over here, which will enhance their capabilities, and we have already our plans.

The last point, and perhaps the more interesting, is what we call Continental Territorial Army: because we have a lot of ex-members of the British Army living in Germany, and most of them are reservists, two years ago we started a pilot scheme with a logistic unit, and we will extend it next year to a limited number of combat units as a battery, a tank troop and an infantry platoon. We believe there is a lot of potential and

because they live in Germany, mostly in garrison towns, it is reasonably easy for them to train on modern equipment. We believe they can give us instant enhancement when we mobilize.

Can you tell us a few words about the effects of the introduction of Ptarmigan, the new communication system?

There is no doubt that Ptarmigan has been the most enormous jump forward in terms of communications; communications are no more a constraint in operations as they used to be, they now enhance our ability to carry out operations. The other point is that logistics have always been

far behind in communications, and we have the ability to communicate with the logistic units already at battalion level.

In conclusion I would like to stress how much in the last few years this joint training we did with the Belgian and German Corps has been effective; in every field training exercise we put either a Brigade or a battalion in their exercises an viceversa, last year on the two major exercises we exchanged Brigades, and most of my battalions have a German partnership. Myself, I have joint tactical discussions with the Belgian and the Germans twice a year. There is a lot of that going on which must be good for NATO and on my experience it is something that developed very remarkably over the past few years and I have a much better knowledge and understanding of the Belgian and German Corps that I think my predecessors had.

Interview by Paolo Valpolini



Lieutenant General Sir Brian Kenny KCB CBE

Born in 1934, he was educated at Canford School and the Royal Military Academy, Sandhurst. In 1954 he was commissioned into the 4th Hussars in Germany; this Regiment was amalgamated with the 8th Hussars in 1958 to form the Queen's Royal Irish Hussars. In 1961 he qualified as a light aircraft pilot and served for 3 years in Aden, Malaya and Borneo. In 1965 he attended the Army Staff College at Camberley. From 1970 to 1973 he instructed at the Staff College and then commanded his Regiment for 2½ years, spending most of the time in Germany and 6 months in Cyprus with the UN. He then became for 2 years Chief of Staff, 4th Armoured Division. Promoted Brigadier in 1978, he became Commander, 12th Armoured Brigade. He attended the Royal College of Defence Staff in 1981 and then commanded the 1st Armoured Division. In November 1983 he was appointed Director of Army Staff Duties and in January 1985 he became Director General Territorial Army and Organization. Lt. Gen. Kenny assumed command of the 1st British Corps on 9 May 1985.

THE ITALIAN INDUSTRIAL SYSTEM



THE PROBLEMS OF THE ECONOMY

Today economic problems, the challenge of innovation and technological frontiers represent the questions to be faced by all advanced industrial societies and even effect the equilibrium of our planet. An international approach and the integration of markets are not only a mandatory step for contemporary economic systems but represent the very mode of existence of the modern firm. Only through a global outlook and integrated worldwide perspective can such firms fully carry out their functions: to create wealth, to boost development and to broaden the productive base, thereby guaranteeing increased employment.

All the major questions characterizing Italy's development are interwoven with phenomena and factors of international economic policy. Both the question of foreign ties and the competitiveness of firms and the more strategic question of innovation and new technologies can find answers adequate to the international links for Italian firms.

It is therefore necessary for Italy to construct a **coherent model of international integration** for her economic system — such action and choice as will make it possible to achieve the leap forward in development which has, for some years now, been the main challenge Italy's industry has set her ruling class.

A recent conference held by Confindustria investigated the question of integration for Italian firms, also outside Europe, and the need to give more freedom of movement to capital. The point to emphasize is that these steps are strategic points along the path the Italian system must follow if it is to achieve the modernity and development characteristic of advanced industrial societies.

During the last ten years, the Italian productive system has operated in a context of profound internal and international change. Throughout the 1970s and into the early 1980s, the Italian

economic system had to face steep increases in the cost of labour and rising prices for fuel and raw materials. Together, these increases sparked off inflationary forces acting upon production costs. Moreover, increased international competition made it difficult, if not impossible, to transfer increased internal costs to prices, thereby bringing about a fall in production.

The last decade has also been characterized by a process of intense financial integration which, in the absence of cooperation between the major economies, has resulted in turbulence on the currency markets — an element which continues to hamper the development of international exchanges.

Last year's **Tokyo summit** tried to impose some order on currencies but, it must be admitted, to little effect.

The more recent **Paris summit** seems to have achieved some progress, even in the face of a negative attitude — to say the least — towards Italy's attendance. I have no desire to dwell on the political significance of Italy's withdrawal, but rather to take the lesson of Paris as a stimulus to continue with increased energy along the path of growth and development.

Important changes have also taken place over the last ten years with regard to international division of labour. Many recently industrialized countries have begun to produce goods of high added value and, through competition, have won rising shares of the market. At the same time, the United States and Japan have widened the gap separating them from the other countries and made the Pacific the frontier of the new markets.

The countries of the EEC, bound in the straitjacket of national egoism, have lost ground and proved incapable of advancing in terms of either a true common market or real economic cooperation.

The ability of Italian industry to project itself beyond its national borders is firmly

established for the major entrepreneurial groups and is becoming increasingly so, in both quantitative and qualitative terms, for small and medium-sized firms. This ability is seen not only in the increased flow of foreign trade, but also in the fact that exports are now a permanent component and definite feature of the Italian industrial scene, not merely an occasional facet of productive capacity or temporary substitute for domestic demand.

I believe it essential to underline this «international» aspect of the Italian economy. In fact, it must be seen that a rise in exports has led to a corresponding structural increase in imported manufactures, and not only in raw materials as happened in the past.

These two exchange flows have become increasingly interwoven and have each served to bolster the other. This is the combined effect of the phenomena which give the Italian economy a solid and essential international interdependence. As a percentage of production, exports and imports rose from 33% in 1970-75 to 46% in 1981-85.

The growing penetration of foreign manufactured goods is not an indication of weakening, but the response of a productive system trying to safeguard its levels of efficiency so as not to lose ground in the international markets. However, this phenomenon has characterized only the favourable trend of certain productive sectors and of a series of firms. It has not been an overall feature common to the entire Italian industrial system, nor has it affected all Italian products.

For this reason Confindustria maintains that Italian competitiveness is confined to certain sectors and pockets: hence her present-day limitations and the criticism of the economic policy which is followed.

Thus some products improve and others slip behind. In addition to market difficulties, the **dollar slump** pushes firms to shift their markets. International integration now imposes undreamt-of flexibility, sudden



OTO C13 tracked troop transport vehicle with 90 mm cannon.

market swings, and compulsory improvements in the quality and design of products.

Thus great efforts are being made to maintain Italy's share of the market at a time when her economy needs to increase exports.

In line with the international integration of the economic system, there is an increasing need for the outward structural expansion of firms, brought about by economic factors and strategic considerations. Today economies of scale, ways of getting round transport costs and trade barriers, and the exploitation of cost differentials form part of the calculations and planning of the modern firm.

There is also the need to link market areas, not only for costs but also so that economic

presence can help to guarantee a cooperation not too far removed from political balances. This is why policies and institutions are decisive in this sphere if we are to guarantee the necessary financial support both for trade flows and for new investment.

Parallel to the trend towards market integration, which is common to all the economies of the modern world, an equally strong negative trend towards protectionism is pushing many markets into isolation. This creates a contradictory and sometimes dangerous situation which ends up acting as a brake on the international trend of the modern economy.

The evolution of the Italian economy towards increasing levels of internationalization also shows contradictory facets and phases of improvisation. The positive and far-seeing choice, taken immediately after World

War II, to let products sink or swim on the high seas of competition, was not followed by an overall project and a global policy capable of setting this international outlook in a consistent and solid framework.

This phenomenon has led to an inadequate and unbalanced opening up of the Italian economy, which can only be set right by achieving a strategic approach to the country's economic policy as a whole.

To be more precise, while the choice of an open economy for Italy is irrevocable, it has still to be backed up by an economic policy capable of withstanding the fierce competition today existing among complex economic systems.

There is a gap between the will to export, the need to compete and the reality of curbing imports, and the instruments of promotion and



Medium-range antitank system with
«Folgore» non-guided rocket.

especially of finance to be used to make it possible to compete on the international commodity and capital markets.

It is precisely the impact of an increasingly fierce competition and of the growing trend towards protectionism that imposes a freer and more aggressive foreign trade policy. The need is now felt for choices more suited to the task of supporting the efforts of firms to maintain and, where possible, to expand their presence on the international markets — a presence made up of goods services, and, it should be remembered, originating solely in the efforts of the firms themselves.

Today it is difficult to rely on firms alone. Careful examination of the evolution of world trade

shows that the market trend is towards the **increasing enhancement** of the technological contents of goods and services.

It is therefore evident and natural that the policy of government intervention must be pushed in the direction of a broad and substantial backing for research and innovation. The great need for capital resulting from this efforts calls for **reform of currency regulations** aimed at fostering the movement of savings and capital at least on a European scale.

It is idle to insist on the nature of the Italian economy if nothing is done about the restriction currently limiting the free movement of capital. Such an operation is not only called for by the maturity of the Italian economy, but is also imposed by a large number of factors which may be identified in a new

season of opportunities for Italian firms.

Restoring efficiency to the financial markets means letting capital move freely to carry its primary function: that of allocation resources by flowing towards the sectors and firms offering the highest returns. This means stimulating **competition** in the productive system and stimulating the **productive processes** themselves to reach ever higher levels.

Another reason, and one which is strategic also from the political point of view, is that of achieving a more balanced relation than today exists between financing private enterprise and financing the public debt. All the bonds and fetters which today hamper our financial market favour the public sector in obtaining credits, the end result of which being to



Aspide missile being launched by a ship-to-air Albatros system.

increase the already great propensity of public administration towards spending.

When I speak of public spending, I am obviously not referring to the role of government in a modern industrial democracy: services, research, intervention in strategic sectors and social stability. My negative comments are directed against the propensity towards rash spending, often on relief, but in any case never yielding any economic or social returns.

A bad educational system, inefficient public services, bureaucratic delays and dispirited public-sector employees: these are the terms of the critical but constructive debate Italian industry would like to enter into with the government.

I believe that to a great extent inefficiency in the public sector is due not so much to present-day laxity but to the fact of operating under **sheltered conditions**, with little competition and far removed from any comparison. The result is to lower the quality of the services provided and to offer no incentive to seek new frontiers, or even new goals.

Today the unavoidable international challenge calls for an efficient and modern public apparatus in terms of both structures and personnel. The ability to withstand competition demands modern, competitive infrastructure and services. The state needs capital to set about its own reform and investing, without which consolidated and lasting development is an illusion. Freeing the financial market could channel a large amount of private savings — both Italian and foreign — into public investment.

Finally, there is yet another reason why greater freedom of movement for capital is necessary: to allow Italy to become a financial centre on a par with the major industrialized countries. Nowadays development indicators no longer take into account only a country's industrial or trading capacities, though these remain the essential bases and determining aspects of economic strength. Financial competitiveness counts too.

This calls for the freedom of capital and a modern currency reform, without which Italy will be obliged to start her «race» already handicapped.

I believe that the ripening of these problems, the changes having occurred in our times and the increasing level of economic knowledge in Italy have led to growing widespread agreement on these objectives of liberalization — in government as in industry, among economists as

among industrialists.

The uncertainty and concern strike me as reminiscent of the uncertainty and concern of forty years ago, when a brave handful decided to break down the barriers and call upon Italy's productive capacity to meet the challenge of work and competition.

The country has reacted well to this international approach and its firms have always been able to respond to the successive gusts of economic freedom from the post-war period to the present.

Let us look back and appraise what has taken place outside the traditional industrial triangle: the vast changes wrought by work, machinery and products in the Po Valley, the Veneto and Emilia; the age-old poverty of the Adriatic coast, now the backbone of Italy's economic development. All of this has come about with the frontiers open and at an accelerated rate precisely in the phases of greatest economic and financial freedom.

The recent decision of the EEC to put into effect the process of growing capital freedom is much appreciated and may stimulate the Italian political class to do away with ties and restrictions. This decision has long been awaited by Italian industry. Its application will make it possible to arrive at something like the conditions in which Italy's competitors and the firms of the most advanced economies operate.

In the background of the international scene, uncertainties and contrast are emerging which call for greater realism in economic analyses and greater attention from those whose work is related to Italy's economic prospects.

So far Italy has been able to count on substantially favourable events abroad. Oil prices and the dollar slump represent an unrepeatable bonus for Italy's accounts with the rest of the world. However, I do not believe that this situation can continue for long.

It is therefore necessary to take on hand all the elements affecting the competitiveness of firms. Especially «internal» cost factors, including that of raising the level of modernization and hence internationalization of the Italian economic system.

Italy has another *historical need*: that of broadening its productive base and boosting development in terms of the quantitative, qualitative and geographically directed growth of employment. These objectives cannot be achieved without increasingly incisive international integration. The illusory alternative is that of a protectionist vision of the economy and an autarchic strategy for national problems.

Is it precisely this phase of flagging exports that calls for the traditional ability of Italian firms to project their activities abroad. An this is the moment when the state must improve its instruments in order to develop Italy's presence abroad and to give greater significance to the international collaboration of Italian firms.

The recent experience of the missions I have led to China, and especially the very recent mission to Gorbachev's Soviet Union, suggest that it is possible to direct our capacity for growth towards these countries.

The economies of the East, at least as regards the civilian sector, are characterized by serious delay and macroscopic inefficiency.

I read Gorbachev's speech at the recent **Moscow Forum** as an «internal message», i.e. the need to increase the quality and flexibility of the Soviet Union's economic system. Hence the slogan of a political appeal against armaments and the challenge of the SDI (Strategic Defence Initiative), which may be aimed at diverting resources towards the civilian sector, to its level of consumption and capacity for expenditure.

To get a foot in this door, Italian industry must use its capacity for enterprise and its dynamic, flexible and productive nature, which has been

demonstrated in recent years and especially in the phase of restructuring the productive system.

The obstacles are still very great, as are the illusions. But what counts is to remain in the front line of competition together with the other European economies.

Greater use of economic diplomacy is, however, crucial. As entrepreneurs we feel the need for more modern instruments in international insurance, credit lines and promotional processes.

Italian embassies and foreign trade offices must supply all the services and support which other firms and economies are provided with.

A by no means minor aim of the overseas missions undertaken by Confindustria and of those continually organized by associations of Italian entrepreneurs is that of making the system of relations more international. A strong presence at the EEC level and Confindustria's role in the organization of European confederations of industry are also signs of Italian industry's firm resolve to act as an organization of firms which believe in the free market and demand freedom to compete on that market.

After the organizational, productive and financial restructuring of recent years, Italian firms are increasingly involved with penetrating foreign markets, especially the richer markets with a consolidated industrial tradition. This arduous goal, in which Italy is measuring herself against the most advanced economies, calls for an integrated global view of the problems of development.

An important step towards the evolution of more modern financial and economic norms is represented by the bill drawn up by Signor Formica, the Minister for Foreign Trade.

The method and the merits of the bill are fully appreciated, primarily because it calls for contributions from those facing the test of international markets. Confindustria is working with a



A 129 «MANGUSTA» light antitank helicopter.

team of experts to make its own substantial and original contribution.

In particular, I should like to stress the novelty of the project, in that it turns its back on the currency protectionism that has burdened the Italian system for a decade. **Clarity** and **currency freedom** are the new objectives of our foreign trade.

The international integration of Italy's real economy is thus beginning to involve authentic **financial integration**. This is the stage which must be achieved if it is to be claimed that the frontiers of international markets have been opened to Italy's development and industry in all senses.

Luigi Lucchini

Luigi Lucchini, born at Castro in the province of Brescia in 1919, was made a Cavaliere del Lavoro in 1975. He is chairman and managing director of Lucchini S.p.A. and Lucchini Siderurgica S.p.A. and managing director of S.A. Eredi Gnutti Metalli S.p.A. He is also vice-chairman of Birra Würer, of Credito Agrario Bresciano and of «La Magona d'Italia»; member of the board of directors of Olivetti, of SMI, of Snia Viscosa, and of Kronnemburg of Strasburg; member of the International Strategic Committee of the Bsn-Gervais Danone Multinational Group; and member of the Executive Council of the Italo-German Chamber of Commerce. From 1978 to 1983 he was Chairman of the Associazione Industriali Bresciana and from 1979 to 1983 member of the board of Confindustria. Dr. Lucchini was elected Chairman of Confindustria on 9th May 1981.



THE ITALIAN INDUSTRIAL SYSTEM



EVOLUTION

NARDI

NARDI COSTRUZIONI AERONAUTICHE SPA • NARDI SISTEMI ELETTRONICI SPA • AERONARDI SP

THE ROLE OF THE ARMY WITHIN NATO



Having entered the Military Academy in 1949, four years after the end of World War II, just as the Atlantic Alliance was coming into being, it is a great honour for me, almost at the end of my career, to write on "The Role of the Army within NATO". I do it in my capacity of senior Italian military representative of NATO, after a life dedicated to the Army in the mutual interests of Italy and the Alliance.

AIMS AND STRATEGY OF NATO

It must first be remembered that NATO is an **exclusively defensive** Alliance including North America and the North Atlantic, Europe and the Mediterranean, designed to safeguard "the freedom of the peoples" of the member States and aiming at the "maintenance of peace and security".

In accordance with its institutional principles, the strategy of the Alliance was based right from the start on two fundamental objectives, the first being a consequence of the second:

1. avoid any kind of war, discouraging all forms of aggression or even the mere threat of the use of strength;
2. prevent the enemy, should dissuasion fail, from occupying our soil, stop his attack and bring him to negotiate and withdraw.

To achieve the above objectives, the Alliance has set up a military instrument of deterrence and defence based on the famous triad of forces (strategic nuclear, non strategic nuclear and conventional).

Moreover, it is already several years since the doctrine of "forward defence" and "flexible response" was adopted. This foresees a direct resistance, virtually on border positions so as not to yield ground to the enemy, through a gradual escalation in the use of such forces, up to the use of nuclear weapons, if necessary, to make

him stop in any case, before starting a generalized atomic war.

ITALY'S GEOSTRATEGIC AND FUNCTIONAL POSITION. TASKS OF THE ITALIAN ARMED FORCES AND OF THE ARMY

As is known, NATO defence in continental Europe is carried out in three regions:

- The North, including Norway and Denmark;
- The Centre, including West Germany, Holland, Belgium, Luxemburg, of which France and Great Britain, in a certain sense, are the rear areas;
- The South, which includes Italy, Greece, Turkey and the Mediterranean sea.

We shall now look at the Southern Region in particular.

As we open the map we read that our Peninsula, situated in the centre of the Mediterranean, i.e. in the middle of the Southern Region or, better still, within the southern flank of NATO, may be considered under two different aspects:

- from the point of view of NATO:
- as a soldering lement between the Southern and Central Region;
- as the pillar of a two-arch bridge joining the Iberian Peninsula to Anatolia, the Straits of Gibraltar to the Suez Canal and the Dardanelles;
- from the point of view of the Warsaw Pact:

- as a separation septum between the two basins of the Mediterranean;

- as the way of penetrating into the heart of this sea and turning round the Greek-Anatolian bastion.

With this in mind, and considering that the primary strategic objective of an enemy offensive against the Southern Region is the conquest of the Mediterranean, the aim may be achieved by two combined or alternative operations:

- by taking possession of the Turkish Straits, the littoral and the numerous islands of the Egean Sea which constitute its defence in depth;

- by conquering the Italian Peninsula.

The first assumption, however, would need the use of a remarkable mass of forces, amphibious as well, and would only regard the eastern basin.

The second operation instead would allow the enemy, with half the amount of forces, to command the two basins, controlling them both easily and further developing operations in all directions.

The above further underlines the delicacy of the geographical position of Italy and the importance of its defences on the north-eastern entrance.

In fact, in the Southern Region we are what Federal Germany is in the central region, that is a "pillar" of the defence of the Alliance, designed to keep up the other structures of the defensive construction, and necessarily very strong because, if destroyed, the rest would be severely compromised.

Besides, a really strong defence of our north-eastern borders can also contribute to the maintenance of neutrality of two friendly nations, Austria and Yugoslavia, buffers between the Southern Region and the Warsaw Pact, and compulsory routes towards Italy and the Mediterranean.



In fact, if the access to our Peninsula is so strongly defended that it cannot be broken, the enemy will likely be reluctant to invade those countries.

In the light of this geostrategic outline, the task of the Italian Armed Forces within the Alliance is obviously the following:

- to prevent the potential enemy from occupying the centre of the Mediterranean with his forces;
- to contribute to the safety of its lines of communication;
- to give a contribution to nuclear deterrence, together with the task of guaranteeing the territorial independence and integrity of our country.

Within the above interforce context, the missions of the Army are, obviously, in the following order of priority:

— to block the north-eastern land access to our Peninsula

which is the most threatened in relation to the distance of the Warsaw Pact countries and to the distance of the forces of the Pact itself (land armoured forces greatly prevail);

— to protect, together with the other Services, the lines of communication which develop across the Mediterranean and the Italian territory and to control the Mediterranean itself (cooperation in the defence of the coasts, the islands, the air space, the naval and air bases and the communication junctions).

The first of the two missions is indicated with priority 1 in the White Paper of Defence, as it is fundamental for Italy and NATO.

In fact, if the enemy invades us with the bulk of its forces, virtually all is lost for Italy, and the defence of the Southern Region of NATO is compromised to the point that the other missions of the Army, Navy and Air Force automatically decline. The above mission, fundamental for both Italy and NATO, must in

practice be carried out by our Army alone because the planned reinforcements of land units of other nations are of limited size and may arrive long after the emergency begins.

THE PAST

Heir to the Italian Liberation Corps, the Combat Groups and the partisan formations which had fought beside the Allied nations for the freedom and honour of the Motherland, the new postwar Italian Army inserted itself quite naturally into NATO to safeguard, together with the same Allies, the values of freedom, independence and democracy it had helped to conquer with its own blood. It may be very easy and brief to tell what our Army did, from its rebirth to our days, to achieve the objectives of the Atlantic Alliance because it is the history of what was prevented from happening, i.e. an history of suppositions.

However, if we turn back to the Italian and European situation of the early years of the postwar period, to the casual facts from which the Atlantic Alliance ensued, we realise that the almost four decades of peace assured by NATO had a very difficult and troublesome beginning, in which the role of the Italian Army was not conspicuous, but one of primary importance.

The destruction of war had made the economic and social situation disastrous and a double threat hovered over Europe and Italy. The times could be summarized with a then fashionable expression: "ha da veni Baffone!" ("Big Mustachio will come!") with reference to Stalin's moustache):

— an external threat of invasion by the Red Army which had not demobilized and was enjoining the communist rule onto the occupied countries. For us, this threat came directly from Yugoslavia which aimed at taking Trieste as well as the "B zone" of the so-called "Free Territory" of the city;

— the domestic threat of a coup d'état or revolution, with serious riots and disorders which in our country reached a crucial point after the attack on Togliatti, the communist leader, on July 14, 1948, when the crowd of militants in Piazza S. Giovanni cried to D'Onofrio, a Party big shot, who was delivering a public harangue: "à D'Onò, dacce er via!" ("Let us start!!").

At the time NATO did not exist. It was however being formed and was officially established in 1949 to put a definite stop to the expansion of the Soviet Union and also to guarantee a safe and democratic political and economical domestic settlement of those countries which were not under Soviet occupation.

Today we may rightly say that if "Baffone" did not come because orders to this respect were not given in that July of 1948 or after, and if Tito's Army, supported by Stalin's Red Army, decided not to overpass the boundary which later became a

border, substantial merit must be given to the Armed Forces and the Army in particular, both because it was by far the greatest part of the forces and because it was called to face directly the above threats (the attitude showed on the border with Yugoslavia in 1955, during the Pella Government is an example).

Though still morally shaken by the outcome of the war, the Italian Armed Forces, having overcome the further trauma of passing from Monarchy to Republic, placed themselves **above the parts and the parties and, guaranteeing the new constitution, remained deeply faithful to the legitimacy of the institutions freely chosen by the people.** With firmness and strength, they thus discouraged the foolish ambitions of revolutionary parties which wished to conquer power through violence, either on principle or practice.

In a few years the country was thus able to accomplish a miracle, which according to me was not only economic, and which surprised the world.

That serious double threat, both foreign and domestic, which had brought conquering and conquered countries of the world to get together only a few years after the war, has virtually characterized all the historical period from then onwards, taking on different shapes, but always maintaining the same objective: the enthrallment of the European countries.

This is the objective which the soviet leadership continues to pursue notwithstanding the various changes at the summit, because in a historical and not only ideologic view of the inevitable confrontation-clash between the two "empires", the Soviet Union believes that it could face, with some hope of success, a long lasting conflict with the superpower of the capitalist world, America, only by taking over the remarkable resources of various kinds now belonging to Western Europe.

For this reason and for the above aim, the Soviet Union gave

the start to that spectacular armament race which would give it a large superiority and the opportunity of occupying the rest of Europe in a very short time in case of war, before NATO can receive its effective reserves as well as the potential ones, very considerable, from beyond the Atlantic.

In this race NATO has tried, first, to compensate situations of inferiority in certain sectors with advantages in other fields of armaments and then, essentially, to limit the difference, so as to make uncertain the outcome of an armed conflict.

In the light of the above, the force ratio between the two blocs has developed as follows:

— in a first period, to about the middle of the '60s, the eastern block was highly superior in conventional weapons, but the West was superior in strategic nuclear weapons (NATO thus applied the principle of "massive response");

— in a second period, to over the mid '70s, the eastern block maintained its superiority in the quantity of conventional weapons, achieved a superiority as far as chemical weapons were concerned and equality in strategic nuclear weapons; the western bloc however, reached a superiority in non-strategic and tactical nuclear weapons (thus applying the doctrine of the "flexible response" with the idea of making up for the inferiority in conventional forces with tactical nuclear weapons);

— in a third period, the '80s, the eastern bloc maintains its quantitative superiority as regards conventional weapons, bridging almost completely the quality gap, keeps the substantial equality as regards strategic nuclear weapons and achieves a marked superiority in the sector of non-strategic nuclear armaments, while maintaining it in the field of chemical weapons.

This evolution of the force ratios between the two blocs and the evolution of the doctrine have gradually enhanced the function of the conventional component of the forces of the Alliance, thus enhancing the deterrent role of



both the Italian Army and the other NATO Armies as regards the outside threat.

Thus the process of reorganization of the elementary Major Units, which especially developed over the last twenty years. Their firing, manoeuvring, resistance, tactic and logistic autonomy and survival capabilities were greatly developed, with the aim of making them better able to face the armoured breakthrough bulk of the enemy, also with the purpose of putting off the use of the nuclear weapon, which has become more of a political than a military instrument and which was once considered almost the immediate reaction to an aggression.

Despite the gradual unbalance of the force ratios mentioned above, we must admit that the combination of the three components of NATO defence (strategic and non-strategic nuclear forces, conventional forces) has excellently carried out its role of deterrence.

And it has worked so well that after almost forty years of

peace, but in a continuous armament race, the Soviet Union seems at last ready to negotiate seriously about stopping it.

Some deem, in fact, that the many proposals of the Kremlin's new leader mean that it is considered at least scarcely convenient to continue the armament race, vis-à-vis the more pressing need for bridging the ever widening economic gap between the communist countries and the West.

It seems that at last one of the primary aims of NATO "the maintenance of peace and security" is about to be achieved.

THE PRESENT

The present is full of expectations, if not of promises yet, in a crucial stage for the relations between East and West.

On the one hand, one would like to eliminate the "sword of Damocles" of the nuclear weapons hovering over all mankind and on the other, one is afraid of doing it. This is due to the fact that until now peace in

Europe has been possible mainly thanks so the threat of nuclear war and it would be very expensive and of uncertain outcome to establish a valid and credible deterrent essentially based on conventional forces.

Following are data and information on the importance of Italy and the Italian Armed Forces within the Alliance.

Among the other 15 Nations of the Alliance contributing to the defence (i.e. excluding Iceland which does not have Armed Forces) Italy is (see table);

- the third Nation in the 50-60 million inhabitant group which includes West Germany, Great Britain and France;
- the fifth for numerical strength of the Armed Forces and the Army;
- the fifth for gross national product;
- the fifth for the amount of expenses designed for defence; these, however, are less than half those of Great Britain, Germany and France;
- the fifth from the end as far as expenses for defence per citizen are concerned;

Country	Population	Armed Forces	Army	G.N.P. Gross National Product	Total Expense For Defence \$	% of G.N.P.	Expense per person for defence \$	G.N.P. per person \$
Belgium	9.870.000 (11)	91.428 (10)	67400 (9)	76.625.000 (9)	2.452.000 (9)	3,2 (9)	248 (8)	9.877 (8)
G. Britain	56.021.000 (4)	323.800 (6)	162.100 (8)	423.527.272 (4)	23.294.000 (2)	5,5 (3)	416 (2)	9.256 (10)
Canada	24.982.000 (8)	83.000 (11)	21.000 (12)	342.666.666 (6)	7.196.000 (6)	2,1 (14)	288 (6)	11.083 (4)
Denmark	5.119.000 (13)	29.525 (14)	15.600 (14)	54.782.608 (10)	1.260.000 (12)	2,3 (13)	245 (9)	11.941 (3)
France	54.382.000 (5)	557.493 (3)	296.480 (4)	492.975.609 (3)	20.212.000 (3)	4,1 (5)	370 (4)	10.566 (6)
W. Germany	61.416.000 (2)	485.800 (4)	340.800 (3)	609.848.484 (2)	20.125.000 (4)	3,3 (6)	328 (5)	11.073 (5)
Greece	9.862.000 (12)	209.000 (8)	165.000 (7)	35.500.000 (13)	2.412.000 (10)	7,2 (1)	237 (10)	3.752 (12)
Italy	56.843.000 (3)	387.000 (5)	270.000 (5)	346.407.407 (5)	9.353.000 (5)	2,7 (12)	161 (11)	6.96 (11)
Luxemburg	366.000 (15)	690 (15)	690 (15)	3.545.454 (15)	39.000 (15)	1,1 (15)	106 (13)	10.371 (7)
Holland	14.344.000 (9)	105.134 (9)	66.200 (10)	124.312.500 (8)	3.978.000 (8)	3,2 (8)	276 (7)	9.762 (9)
Norway	4.123.000 (14)	37.300 (13)	20.000 (3)	41.250.000 (12)	1.155.000 (13)	2,8 (11)	375 (3)	13.837 (1)
Portugal	10.158.000 (10)	68.252 (12)	40.000 (11)	19.656.250 (14)	629.000 (14)	3,2 (7)	62 (14)	2.450 (13)
Spain	38.266.000 (7)	320.000 (7)	230.000 (6)	161.928.571 (7)	4.534.000 (7)	2,8 (10)	117 (12)	—
Turkey	47.859.000 (6)	654.375 (2)	542.000 (2)	49.772.727 (11)	2.190.000 (11)	4,4 (4)	45 (15)	1.308 (14)
U.S.A.	234.262.000 (1)	2.143.955 (1)	770.904 (1)	3.703.937.500 (1)	237.052.000 (1)	6,4 (2)	1.001 (1)	12.561 (2)

— the fifth from the end for income per person;
— the fourth from the end for percentage of the gross national product destined to defence.

In the peace organization our Armed Forces are 7.04% of NATO's total and 11.8% of NATO's European forces, whereas the Army represents 8.98% and 12.18% respectively (Carabinieri excluded).

Italy's financial contribution to the Alliance for expenses regarding infrastructural and managing programmes are equal to 8.3% and 7.3% respectively, thus corresponding to our force contribution in percent.

Though arid, the above figures are politically meaningful and tell us that:

— Italy is situated in the first third of the member countries of the Alliance as regards population, numerical strength of the Armed Forces and overall expenses for defence;

— it is however in the last third as regards expenses per person and percentage of the gross national product designed for the same aim.

This confirms the impression that despite the reductive

reorganization carried out, especially over the last fifteen years, aiming also at recovering resources to modernize the equipment, we still have a numerically strong Army, within the other countries of the Alliance but, however, not powerful enough and up to our times and the enemy, as far as weapons are concerned.

It must be said, however, that the Italian Armed Forces and the Army, as their main component, have a reputation, among the other Armies of the Alliance, far superior to the average of the percentage representing our contribution to NATO in various fields, even superior, I would say, than we could think, aware as we are of our faults and failures in quality and organization. This is due to a number of political and moral reasons, as well as to statistical technical, and operational evaluations.

Among the above, I can surely point out the following:
— the continuity, with unflinching loyalty, of our atlantic policy during the last four decades and the maintenance of the commitments within the NATO

force programmes;

— the impression, always very favourable, given right from the start by the Italian units (the "Susa" Alpini battalion and relative supports, now called "Cuneense" Tactical Group) which are part of AMF, the ACE Mobile Force, in the exercises carried out beside the units of other Nations, in the most difficult and diverse theatres of operation;

— the generally very positive outcome of the inspections to the antiaircraft missile units of the Army, which are part of the forces under NATO command already in peacetime, for air defence. These inspections have now been extended to other kinds of units, with very good results;

— the high professionalism shown at all levels and in all aspects by the Italian contingent in Lebanon.

In conclusion, NATO has great faith in us. According to a survey of the SHAPE Technical Centre, on behalf of SACEUR, designed to evaluate the capability of conventional resistance of the ACE force, considered at full strength, with all the programmed means and



supplies available, we would be able of maintaining our defensive position on the border far longer than evaluated for other theatres of operation.

THE FUTURE

The following two assumptions may be made as regards the future of the relations between the two blocs which might affect the future of our Army.

The first assumption is that the negotiations under way for the substantial reduction of forces in Europe, with particular regard to nuclear forces, will have a favourable development within a few years, with the consequent enforcement of the zero option in the INF sector, the elimination of chemical weapons, the return to their country of part of the U.S. and Soviet troops and the limitation of the other opposing conventional forces on both sides.

The second assumption is that the negotiations will go on at length without success, as already happened for MBFR, or will have a partially favourable outcome as for SALT 1, SALT 2 and for CSCE, in that they put mutual limits for the future, but do not involve substantial reductions and balances in the existing opposing forces.

In the first assumption the threat of an attack to NATO would be further away in space and time (it could no longer be sudden). It would moreover be reduced as regards quality, due to the elimination of most of the weapons for mass destruction, but not greatly reduced as regards quantity in the conventional field, because the Soviet union will probably be ready to withdraw part of its troops in its own borders, but will not easily give up its superiority in this field which it considers an essential factor of security, also for the internal stability of its coalition.

Moreover, for the organization of the NATO forces, this first assumption, favoured by public opinion and pursued by politicians, would require an important change in the enforcement of the principle of deterrence, now based mainly on the non-strategic nuclear componed based in Europe.

All experts and scholars of strategic problems have now well understood that NATO, as a consequence, would have to enhance much more its conventional component, to reduce the gap existing vis-à-vis the opposite bloc. The risk of war would otherwise increase instead of diminishing.

At the same time, the European statesmen are becoming aware of the fact that in this assumption, Western Europe should further rely more on its own strength than on the support, conventional or nuclear, coming from across the Atlantic because, in an atmosphere of

general détente in the relations between the two blocs, the United States might be induced to reduce their immediate contribution to the defence of the Old Continent, causing a further weakening of deterrence.

The problem is "how" to strengthen the NATO conventional component, "how" to unite, or at least combine better the defensive efforts of the Western European countries.

I shall go back to this subject later, at the conclusion of the article.

Let us now evaluate the second assumption mentioned.

The second assumption reflects the situation of the last 15 years and expects it to continue with endless negotiations because neither side has the courage to interrupt them, without real and decisive outcomes on the strength and location of the opposing forces. This would mean that the armament race would continue and that the threat for NATO would gradually increase, as in the past, bearing in mind that despite Gorbachev's arrival at the Kremlin, nothing has indicated, so far, a slackening in the research, development and production of the Soviet war industry.

It is well known that now, in Europe, NATO does not have a single sector of armaments with which to make up for the considerable inferiority in conventional forces. Hence, even the strategy of "flexible response and advanced defence" risks being compromised, unless the unbalance existing in the conventional forces and partly also in the non-strategic nuclear forces is greatly reduced. In fact, in such an unbalanced situation, our advanced conventional border defence could be overcome in a short time and our "first use" nuclear retaliation would become hazardous and hardly credible.

In fact, the decisions of the NATO political authorities over this last period are the result of the above perspective: thus, the installation in Europe of theatre missile forces (INF-1979), the achievement of systems apt to

strike, delay and wear out the second echelons of the enemy attack at a distance, before they come in contact with our troops (FOFA-1980), the development of the capabilities of conventional defence in all the different sectors, by modernising the weapon systems, improving the firing capabilities, increasing the stocks, etc. (CDI-1985).

We may safely draw a conclusion from the survey of both assumptions regarding the likely development of relations between East and West: whether negotiations for a general balanced reduction of the opposing forces (including the elimination of the INF) succeed or not, **the deterrent role of the Alliance, of vital importance for the peace and security of Europe, will necessarily have to be based on the conventional component of the NATO forces, contrary to what occurred up to now.**

In other words: if we want to give up or at least rely less on the instruments which so far have guaranteed peace through an equilibrium of terror, i.e. nuclear weapons, we shall have to aim at a more balanced equilibrium of forces, especially conventional ones.

As it is most unlikely that the Soviets reduce their conventional forces considerably — at best, as already mentioned, they might withdraw part of those located in the satellite countries — we cannot take into consideration the possibility of reducing our forces, already numerically inferior. We must, instead, consider a qualitative increase of combat-ready forces, a higher quantity of mobilization forces and an improvement of sustainability, so that the capacity of resisting, in time and space, the resilience, that is, of our border defence, may at least double, without having to resort to nuclear fire.

How can we achieve this?

The answer may be found largely in the NATO directives and programmes (CMF: Conceptual Military Framework; LTPG: Long Term Planning Guidelines, Force Goals, etc.) as well as in the medium term

programmes of the Army Staff.

According to these programmes the Italian Army will have to develop mainly the following:

- antitank fire capability;
- low and medium altitude anti-aircraft defence;
- long distance fire saturation capability;
- tactical mobility;
- N.B.C. defence;
- availability of stocks, ammunition in particular.

According to me, however, we must and we can do more, bearing in mind, in particular, the peculiar characteristics of our north-eastern theatre, formed by a plain corridor between the sea and the mountains, about 50/60 km broad and 200 km long from the threshold of Gorizia to the Po Valley. I believe that, by making better use of the availability of trained personnel, discharged conscripts and long-term servicemen — armed with weapons no longer distributed to the field units but still working and efficient — calling them back to duty at intervals for exercises, and mobilizing them on emergencies, it would be possible:

- to establish a system of predisposed strongpoints, to integrate the permanent fortifications, on the Defensive Position, to be occupied by "local resistance formations", to strengthen the capability of defence. According to me, the border villages should be able to become static defensive elements, manned by the local people who defend their own houses;
- to establish a second Defensive Position in depth, to be partly controlled by local resistance formations as mentioned above, and partly by the reserves of the Theatre and partly by forces recovered from the 1st Defensive Position, in case it is broken. In this way our defences could be given greater depth and greater capability of resistance, without having to give up the "forward defence" at the border.



CONCLUSION

The Italian Army plays a very important role in the defensive deployment of NATO: that of a hinge between the Southern Region and the Central Region, to which the door of the Southern flank is fastened: the role is so important that if the hinge yields, the entire Southern door collapses, but also the post on which the central door rests is considerably weakened.

It is unlikely that this role be changed in the future, as it is due to the geostrategic position of our country in the deployment between the two opposing blocs.

To maintain a valid, credible and globally balanced deterrence, the Atlantic Alliance needs, and will need in the future, a strong Italian Army, stronger than the present one and able to keep shut the land access to our Peninsula, outstretched into the middle of the Mediterranean, even without the support of nuclear fire. This is necessary for our allies to the East, Greece and

Turkey, and our allies in the Centre, but it is also necessary for the neighbouring and friendly neutral countries such as Austria and Yugoslavia, because the firmness of our borders contributes to guarantee their independence and neutrality.

As regards this requirement, though wishing an early success to the negotiations for a balanced reduction of forces in Europe, but quite aware of the need for NATO to reduce, anyway, the existing unbalance in conventional forces, I see the Italian Army of the future divided into the following three formations:

- the first, for immediate employment, always operational, not inferior in size to the present field Army, formed by conscripts and long-term servicemen also for the troops, mobile and powerful, and therefore greatly capable of manoeuvring, with evermore modern equipment and weapons, able to face threats in

any part of the national territory and of the North-Eastern Theatre, which remains the primary mission;

- the second, for mobilization and readily available, albeit not immediately, based on elementary Major Units similar to those of the field Army and mobile tactical groups for the internal manoeuvred defence of the territory with a strength more or less equal to the present one;

- the third, for mobilization too, but for ready employment, designed to make up the "local resistance formations" to be employed in manning the strongholds in the defensive position or static protective elements for the internal defence of the territory, far superior in quantity and in quality, to that envisaged by the present planning, especially as regards the border area.

It is well known, however, that the material strength of an

Army has little meaning if the will to fight is lacking or if the personnel is not able to use its means efficiently, i.e. if it is not convinced, morally prepared and trained.

Allow me, therefore, still optimistic and full of hope for the future, to tell a dream I made as a young company commander on the northeastern border: I saw the squads and platoons of my company redouble, during certain weekends and during the summer field manoeuvres, with soldiers I had met before, during their service as conscripts, coming from their homes in uniform, glad to be with friends and happy to recall sentiments and memories of military life; I saw these "ultragrandfathers" teach the new recruits in a spirit of fraternity and take an interest in the new combat and working equipment and techniques; I saw their keenness in firing competitions and "old" soldiers rival against the young ones to show how capable they still were; depicted on their faces, I saw the pride of being soldiers, fully able to defend their soil and the Motherland.

Now that I am old, I have added something to the dream of my youth: among my soldiers I see other men who speak different languages, but wear the same uniform, though the headgear and certain symbols may be different; on everybody's arm I see a badge made of two flags; the flag of Europe over that of their own nation; the ACE Mobile Force, now commanded by General Angioni, has multiplied, and in the courtyard of their barracks are three flagstaffs: one for the NATO flag, one for the flag of Europe and the third for that of the host country.

The dream is also an omen, the omen that what has not been done by the common economic interests may be achieved by the need for defence and survival and that, as our Army was "the thread which sewed Italy together and keeps it one" as Luigi Settembrini put it, the European Army may really sew Western Europe together, to make it a



political community. A more united and solid Europe, both politically and militarily, would certainly be the best outcome for the crisis now troubling NATO, the best guarantee for recovering cohesion and security for the whole Atlantic Alliance and for another lengthy period of peace under the protection of its shield.

Vittorio Bernard



THE ROLE OF THE ARMY WITHIN NATO

Lieutenant General Vittorio Bernard attended the Military Academy, the Application School, the War College and the Joint Staffs Institute.

A graduate in Civil Engineering, he served at the Infrastructure Branch of the Northeastern Military Region, the Organization Branch of the Army General Staff and the Centre for High Defence Studies.

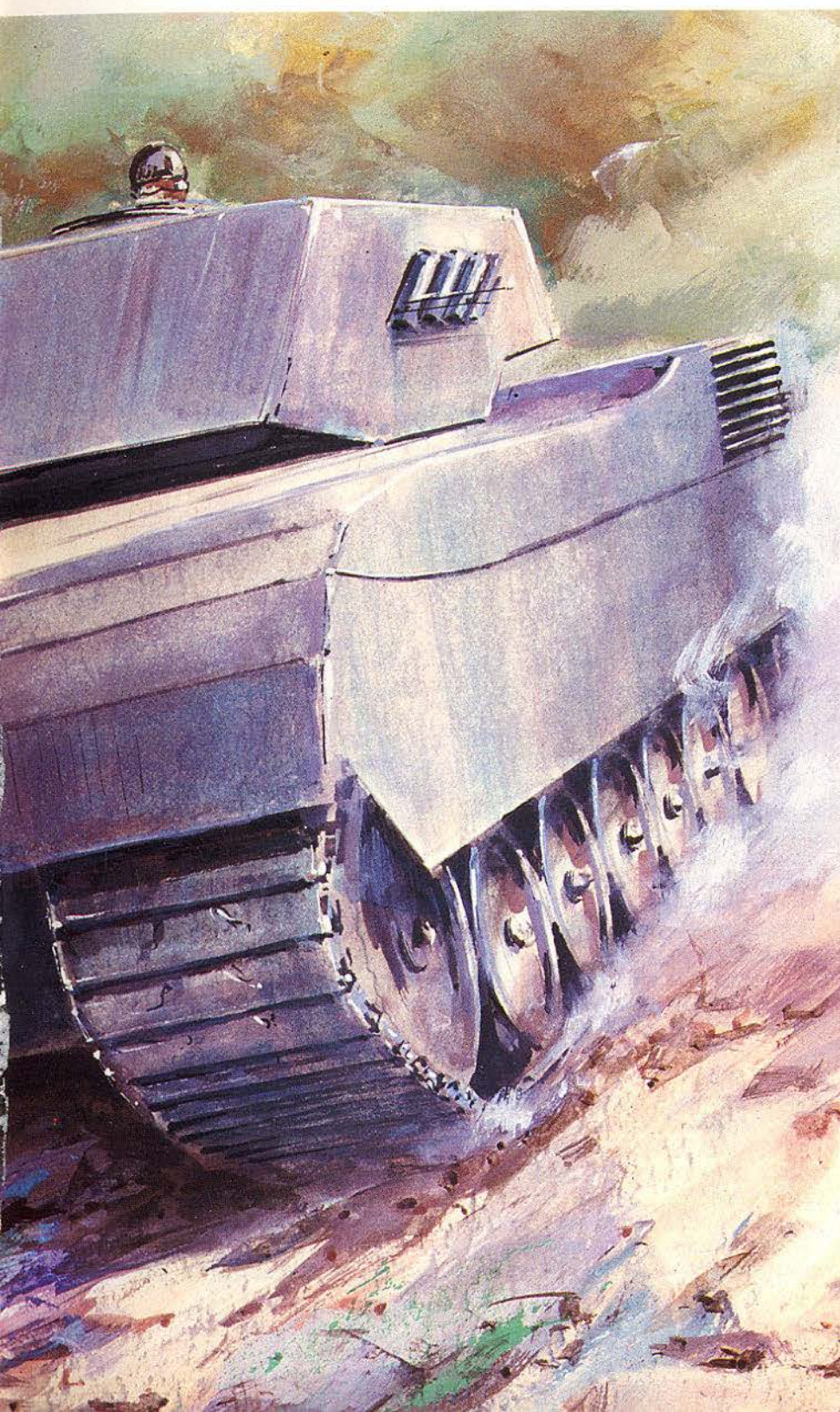
He commanded the Engineer company of the "Julia" Alpine Brigade, the "Legnano" Engineer Battalion, the Engineer School, the Engineers of the Northeastern Military Region and the "Pinerolo" Mechanized Brigade.

Lt. Gen. Bernard has been Military and Defence Attaché in Moscow, General Director of Geniodife and SHAPE's Deputy Chief of Staff for Logistic Support.

Since December 1986, Lt. Gen. Bernard has been Italian MilRep at the NATO Military Committee in Brussels.

NEW TECHNOLOGIES AND PROCUREMENT POLICY





NEW TECHNOLOGIES AND PROCUREMENT POLICY FACTORS AFFECTING THE PROCUREMENT POLICY

The planning of procurements is certainly the central and most crucial part of the Army's global planning.

It is based on technical-operational, technical-industrial and financial parameters.

Among the technical-operational elements, one factor is of particular significance: the composition of the stockage of means and materials for the Army of the future, and, above all, the operational life of the weapon systems currently in use, which demands a well-defined replacement rate in order to keep a constant efficiency. Replacement rates which are strict and binding, because they are determined by the operational and technical obsolescence of the weapon systems in service. In fact, if these are unable to compete with those of the potential adversary, their permanence in service appears completely outside the cost/benefit logic, also because it imposes skyrocketing financial burdens which are bound to paralyse the renewal.

Among the technical-industrial parameters I shall just mention:

- technological development, not only our own, but also that of the potential adversary;
- specific industrial requirements aimed at reducing costs, such as a better utilization of the production lines, also through a recourse to "weapon system families", which have in common a number of identical components.

But the policy of procurements is especially affected by the financial parameter. This is actually an absolute restraint, within which choices have to be made as regards the allocation of resources among the various sectors and the various operational components.

This study will be focused only on the parameters which concern especially the financial and technological sphere.

POLICY OF CHOICES

As everyone knows, planning entails a range of options,





"Firos 25" multiple rocket-launcher.

in which the advisable is subjected to the financially and technologically possible.

To understand how the technological process affects the policy of procurements we shall try to outline the nature and mechanisms of these choices. I shall say directly that all factors — including the technological one — must be considered in the global context of planning. In the same context, one must also consider all the other components of the military instrument, which actually compete among themselves in an effort to attain the highest possible levels of efficiency in their sector.

For instance, if one buys too many tanks, obviously he will not have resources left to buy artillery, and if one wants very advanced technological characteristics, he will be able to acquire a reduced number of items, unless he subtracts funds from other operational sectors.

In short, it must be clear that the qualitative and quantitative optimization of a component can turn out to be in contrast with the global optimization of the available resources.

In this light, the fundamental goal of the procurement policy is that of obtaining a balanced and homogeneous operational capability of the instrument in every sector. In the opposite case, areas of excellence and areas of deficiency occur, and they translate into dangerous operational vulnerabilities.

THE EXPLOSION OF MILITARY COSTS

A phenomenon which most affects the planning of procurements in all western armies is the spiralling of the unit-costs of the weapon systems. This risks to produce the so-called "structural disarmament of NATO".

The cost of a weapon system in fact is from 2 to 5 times that of a system of the previous generation. Moreover, according to the available evaluations, approximately two thirds of NATO land forces' supplies have a yearly inflation rate exceeding by 8% that of the consumer costs. This applies, of course, to a completely normalized stock of materials, i.e. without the accumulation of past deficiencies and with a reasonable balance between new and old equipment. Having premised this, it seems clear that the annual

increment of the budget of the modernization sector should be, at least, around 6% above the average inflation rate. Failing this, the stock of materials and means will inevitably deteriorate, both in its qualitative component (the so-called high-low mix) and in its operational effectiveness.

In tackling this problem, the Army General Staff has preferred a reduction of the operational expenses in favour of investments, which, in the last 10 year, have risen from 25% to 35% of the discretionary expenses, with the aim of reaching 40% by the early nineties. The main way of attaining this goal is a substantial cutback in the support organizations and a reduction by 17,000 effectives in the Army's balanced strength. But this type of intervention has well-defined boundaries, essentially for three series of reasons: first of all, because the recruitment of volunteers will entail a sensible increase in expenses for personnel in the coming years; second, because the R & D sector will inevitably absorb a progressively increasing amount of resources; third, because the situation as regards the Army's infrastructure is very difficult and the expectations for a complete funding of the plan for the reorganization of the infrastructure with "ad hoc" resources are at present still far from reality.

It must be noticed at the same time that the tendency to improve the conventional component — in order to make up for the decreased contribution of the "nuclear" to our defence system — requires a definite boost in the operational response of the land instrument, if we want it to perform its primary institutional function, which is precisely that of deterrence.

For this reason the Army General Staff favours a close interservice integration of the Services' planning. This general



idea is in fact a necessary precondition for the correct assessment of the operational priorities in a comprehensive picture, and also to render the Army adequate to the tasks foreseen by the new model of defence.

THE HYSTERESIS IN THE APPLICATION OF THE NEW TECHNOLOGIES

The programme of improvement of our instrument cannot, in any case, disregard the

time necessary for the new advanced technologies to become generally employed.

It must be emphasized, in fact, that a complex weapon system requires a development period of 8 to 12 years and remains in service for a period of 20 to 30 years. Owing to this, one should be very cautious when speaking about new technologies and technological revolution. The renewal of this equipment is an extremely slow and complicate process. The average weapon system currently employed by the western armies make use of



AB-412 "Griffon" multirole helicopter.

15-20-year old technologies, and when speaking of technological revolution it should be considered that this demands a progressive and difficult training of personnel and the adaptation of the logistic support; those are measures which entail long times and must be carefully planned. The emerged technologies — I mean, for instance, the infrared and laser sensors, terminal-guidance submunitions, special materials for armour, microprocessors for processing data in complex systems, etc, i.e. technologies which are mature today and can be applied to the new weapon systems — will make themselves felt in ten years time. The emerging ones (i.e. technologies for suppressing radar signatures, engines with high specific power, microelectronics based on gallium arsenide,

propellants and explosives with controlled sensitivity, etc.), are still in a stage of applied research and will become completely operational in two or three decades.

The policy of procurements laid down by the Army General Staff tries indeed to rein the "technological demon", in a framework of concreteness, subordinating every choice to rigorous cost/effectiveness evaluations.

FROM THE PHILOSOPHY OF "THE SYSTEM" TO THE PHILOSOPHY OF "THE COMPONENT"

A particularly interesting phenomenon in technological progress is that the technologies of some weapon systems' components, such as those regarding the acquisition of objectives, command and control and actual warfare, are evolving much more rapidly than the

technologies of platforms. This has determined a progressive change in the philosophy of modernization, for reasons of economy and to contain the times of technological updating.

The development and procurement of major weapon systems has systematically gone — and is going at present — from a "philosophy of the system" to a "philosophy of the individual component". On the same platform — for instance, on the same hull of a tank or self-propelled gun, progressively more advanced components are mounted. Only in this way can one make significant cuts on production costs and on the time elapsing between the development of technologies and their employment in the weapon systems.

The emblematic example at international level is the "Hawk" missile system, which has been subjected to an extremely long programme of updating which, up to this day, has extended its operational life by at least 20 years.



"Tow" A/T weapon system on AR/76 Fiat.

On the national plane we have the example of the "M107" on which the 175mm gun has been replaced by a 203mm gun, and the "M109" which has also been modernized with a longer-barrel gun.

The incidence, of great interest at present, will have essentially three consequences:

- first of all, Research and Development will be induced to design new modular systems, in order to install on the platforms the most advanced components as they are made available by the technological progress;
- second, it will weigh on the policy and planning of the procurements, aimed more at refitting than acquiring new complete systems, also considering the difference between resources and requirements;
- finally, it will greatly spur

international cooperation within Europe, permitting to overcome the present political and industrial restraints which make it difficult to work together for the realization of composite systems. A concrete example of this evolution is the NATO cooperation programme for the 3rd-generation tank, which will coagulate the interests of a number of nations on the single components (guns, engines, etc.) rather than on the tank-system as a whole.

PRIORITIES IN THE POLICY OF PROCUREMENTS

On the ground of the limitations and considerations mentioned here in short, the Army has worked out a 10-year procurement programme based on a realistic and concrete — although still inadequate — financial estimate, which is based on the working expenses and investments of 1987, incremented by 3% in real terms.

These plans include about 700 programmes which concern all the operational areas of the Army and aims, as we just said, at obtaining the best possible balance in the levels of efficiency in the various sectors.

In this light, for clarity's sake, I shall mention three groups of programmes:

- the first concerns those aimed at filling the widest gaps of the present. In short, it is a matter of filling the vacuums, especially in the sectors of anti-aircraft and anti-tank defence;
- the second group regards programmes for the replacement of weapon systems in service, which have become obsolete, with systems of the new generation;
- the third group concerns Research and Development programmes for 3rd-generation weapon systems which should be produced, if possible, in the framework of international cooperation.

In connection with the first group, related to anti-aircraft and



"Apilas" short-range A/T rocket launcher.

antitank defence, the choices have been made concentrating on the achievement of a mix of systems of different range, employing conventional and missile technologies.

In particular we can say that the Army, relying mostly on the national industry, is being equipped with weapon systems capable of facing the threat of the nineties, both in the antiaircraft sector (25mm four-barrel "Skyguard-Aspide", "Mistral") and in the antitank sector ("Tow", "Milan", "Folgore", "Apilas" or another similar self-defence system). Apropos antitank defence, another weapon system with high technological contents deserves special mention: the "A-129" Agusta helicopter, armed with "Tow-2" antitank missiles, with all-

weather operational capabilities, due to advanced day-and-night navigation and firing systems. Mass-production of the antitank version of this helicopter will start next year and will be joined by helicopters of the same family in the scout and utility variants.

In relation to the second group of programmes projected into the nineties, the first place certainly belongs to "CATRIN". This is an ambitious programme which will involve almost all national industries working in the defence sector. It is in fact a consortium of 6 major firms and about 30 associates.

CATRIN with its subsystems covers almost the entire range of the presently available technologies and is the expression of the tendency to submit all systems, especially the most complex ones,

to procedures of integrated and automated management which emphasize their performance in terms of operational readiness and effectiveness. It is the system of systems.

CATRIN consists of three subsystems, SOTRIN, SORAO and SOATCC, respectively aimed at meeting specific needs in the sectors of communication and data transmission (SOTRIN), surveillance and target acquisition (SORAO) and automated management and control of the systems operating in the third dimension (helicopters and antiaircraft artillery) (SOATCC).

The other most significant programmes concern:

- modernization of the tank and armoured vehicles sector, by introducing into service a new tank, a heavy armoured car, a new tracked vehicle and a light armoured car, all nationally designed and produced;
- modernization of the artillery, with improvement of the "109" self-propelled guns through the adoption of the same ballistics of the "FH/70" and, above all, introduction of rocket launcher systems of two different categories ("MLRS", "Firos 30") capable of interventions against areal and sheltered objectives at a remarkable distance. The antitank defence is therefore assuming completely new dimensions;
- completion and modernization of the supply of fixed bearing bridges, the design of which is currently being done in Italy by the Aluastra consortium.

For the third block of programmes, aimed at meeting long-term needs, the Army is engaged in carrying out Research and Development plans which concern mainly 3rd-generation systems, such as: the "fire-and-forget" antitank missile system; the light attack helicopter, which will



Four-barrel 25mm A/A weapon system on M 113 hull, employed for self-defence by mechanized and armoured units.

replace the "A-129", 155mm autonomous precision ammunition; the new tank and the self-propelled gun for the years 2000; the anti-aircraft missile system which will replace the "Hawk"; the surface-to-surface missile system that will substitute for the "Lance".

As it can be noticed, the result of the current policy of procurements will be, at the end of the decade, the attainment of a more balanced level of operational capabilities in the various sectors of the land military instrument, which will bring about a concrete optimization of the effectiveness of the entire organization.

CONCLUSIVE REMARKS

As I have mentioned before,

the political essence of procurements, especially in a period of swift technological development as the present, is that of selecting the necessary from the desirable. But technology costs, not only in terms of resources but also in terms of professional training and adaptation of the logistic support. Therefore, we need a rigorous analysis of priorities, projecting the planning, as has been done, as much as possible in the long term, so as to enable the national armament industry to develop the planning and production capabilities necessary to meet the requirements of the Army of the future.

Luigi Federici



Major General Luigi Federici attended the Military Academy, the Application School, the General Staff Course, the Advanced Staff Course, and the "Junior" Managerial Technique Course.

He commanded the "Udine" mountain artillery battalion and was Deputy Commander — and then Commander — of the "Julia" Alpine Brigade.

Gen. Federici held the following positions at the Army General Staff:

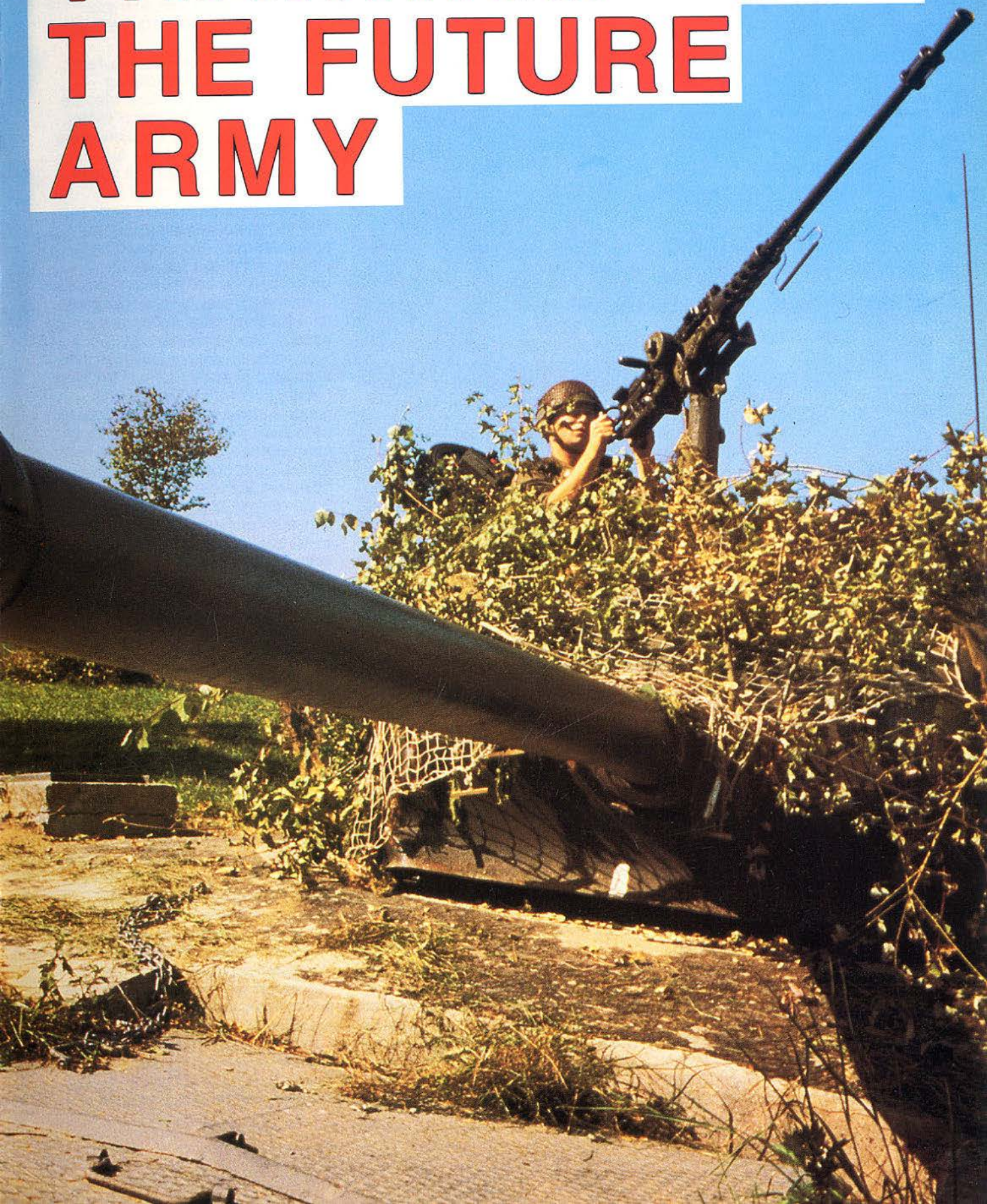
- Staff officer, Regulations Branch;
- Chief, 2nd Section, Services Branch;
- Chief, 1st Section, Procurement Programmes Branch.

He has also been Chief of Staff of the IV Alpine Corps and Chief of the 4th Division of the Army General Staff.

At present, Major General Federici is Chief of the 4th Division of the Army General Staff and Inspector for Logistics.



TRAINING OF THE FUTURE ARMY



Military training is a subject civilian society does not like to talk about. It mainly enjoys and discusses general topics such as "An Army of Conscripts or an Army of Professionals?", but it seldom tackles more troublesome problems such as training. Only certain aspects of the problem have been understood and thus one expects full time employment of enlisted men, provided this is limited to barrack courtyards and far from inhabited areas, provided it does not require combat vehicles which may cause traffic jams or block the access to firing range areas and, of course, provided expenses do not weigh too heavily on the national budget.

In other words, training should be concentrated in a short period of time, accomplished with little money and, mostly, should not cause disturbance of any kind, the only military noise tolerated being that of bands and fanfares.

This is obviously not the best attitude towards the problem.

Training is, in peace, the *raison d'être* of the Armed Forces and, as stated by the basic circular of our Army, must be carried out effectively and continuously even if this should mean imposing limitations onto the community. The latter should understand that only serious training activity in time of peace can guarantee less sacrifice and a lower death toll in an emergency. I am not the only one convinced of the above as the "mottos" in use within the Armies of other countries show below:

- United States: the more you study in peace, the less blood you shed in war.
- Federal Germany: sweat saves blood.
- France: you become a blacksmith only by forging.
- Soviet Union: difficult in training, easy in combat.

Cadres and privates at all levels must make training their primary aim, the very essence of their professionalism.

Both may carry it out in different ways and places, from the classroom to the terrain; no doubt, however, that the most appropriate moment to test the degree of training of both the individual man and the units is during the exercises

carried out at various levels. Of course, this kind of experience must be achieved gradually with increasingly difficult goals and activities.

As usual, all this is subject to strong conditioning within the system, due to certain factors which must not be overlooked. I mention the following for their preeminence:

- the need for suitable equipment and training structures (firing ranges, teaching aids, ammunition, fuel etc.)

- the need for valid instructors, numerous enough to allow an optimum ratio instructor-student. By "instructors", we mean Officers and Non Commissioned Officers and also volunteers in prolonged service.

To fully develop this particular subject, we should make reference to a steady situation as far as personnel is concerned. This is not so, however: at present we may reasonably forecast the situation of the Cadres because there is a realistic medium term plan which allows valid anticipations; regarding volunteers, instead, in spite of the fact that the law is already in force, we shall have to wait at least till the end of the year before being able to get the trend as to availability, quality, etc.

It must be underlined that all the above must be seen with a view to economy, meant as the singling out of the objectives to be achieved by training and which cannot be forgotten but looked at realistically because in times of peace we must gradually operate in a context as similar as possible to the battlefield.

A survey, though superficial, of the existing law, allows us to state that, as a whole, it is suited to the requirements of a conscript Army. Graduality is respected and economy is implied in every paragraph. The need for realism is often entreated.

The practice, however, shows a series of inconveniences and limitations which need mentioning, because in the future they will have to be, if not altogether eliminated, at least reduced to avoid penalizing the sector excessively.

The principle of economy is

often made vain by causes beyond control. The general organization of the instrument itself is a heavy burden for the various activities which subtract a considerable number of men from the training engagement.

And this confirms the fact that the second restructuring announced last year must also be carried out in the territorial sector.

I have already mentioned the need for realism, but this is jeopardized by the lack of space – the available one, it must be remembered, has nothing to do with that of the actual employment – and, moreover, is deadened by the intolerance of the population concerned, by safety requirements and, sometimes, by an inadequate availability of ammunition due to costs.

The obvious result of all this is that the General Staffs of the field Major Units train to move only on paper and the units find it difficult to try out the fundamental tactics and carry out the complete operational cycles typical of defensive and offensive actions.

Briefly, therefore, the present situation is characterized by the availability of substantially valid laws, but distorted or badly applied because of the abnormal impulses coming from the contingent reality in which the units have to operate.

In the near future, these inconveniences will increase and be worsened by other factors such as an ever decreasing yield of conscription, for example, which will not allow to choose healthy men with high psychotechnical and quality profiles.

The present state of things is obviously not satisfactory.

Considering the above, together with other problems I have not mentioned for the sake of brevity, it is clear that the direction to take is that of improving methodology through new teaching aids and, therefore, new training techniques.

We must consider foreseeable pressing future requirements by facing and solving some basic problems such as the following:

- improvement of instructors;
- reduction of engagements other than training;
- larger spaces and, above all,

Efficient and continuous training is the raison d'être of the Army.

In the photo an Italian NCO and an English soldier during an exercise.

more suitable for training activity; the firing ranges now available will therefore have to be rationalized, together with those which may be acquired;

- the use of techniques in step with the opportunities offered by technological development.

While mentioning rapidly the possible solutions, I shall speak more specifically of the last aspect, which I believe will allow to set up a real and productive training activity.

First priority must be given to the problem of **instructors**.

If it is true that the present situation regarding instructors is not very good, it is equally true that in the future, with an increasing degree of specialization required by sophisticated training means based on advanced technologies, it does not have much chance of improving.

Or, to put it better, this may be possible as far as quantity is concerned, but as regards the quality of personnel the situation may worsen if a solution is not found soon.

In fact, the professional base of Officers and Non Commissioned Officers must be accentuated and this may be achieved by establishing an ever increasing number of specialization courses, even if short.

This way we may achieve important results in the setup of future training, which may be summarized as follows:

- promotion of schools, engaged in an evermore dynamic technical and didactic activity;
- a more accentuated flexibility in the employment of personnel having a greater and more diversified technical knowledge;
- formation of unit Commanders



trained to exploit and employ advanced technical equipment.

As regards the reduction of **non-training activities**, it is hard to believe that in the future the requirements of the Military instrument **may change** considerably.

The problem seems serious, especially if related to the demographic decrease and the resulting minor incorporation of conscripts having suitable

characteristics.

In order to safeguard training personnel, it will be necessary to turn in ever greater measure to the following:

- long term servicemen for tasks requiring a broader experience;
- civilian personnel, for the organization and direction of services connected with the life of the military community;
- women, for all those activities better suited to the feminine



A basic provision for the future is the improvement of the situation of the instructors, with an ever increasing degree of specialization.

and keeping it up with the times. There are two main sectors within which to move: that of the training areas and firing ranges, and that of advanced simulation systems.

As regards the first aspect, I believe we should have other compounds like the Training Centre for Armoured Units, in regions other than Sardinia. Where possible, this could be obtained by enlarging existing state-owned areas, supplied with a permanent organization, qualified to use all the weapons allotted and designed for large size drill and live-firing exercises.

To complete the above, smaller training areas should be acquired, but their number should be suitably spread over the national territory. These should "specialize" in different tasks (combat in urban areas, combat in woods, etc.).

Already available permanent districts should be enhanced and modernized with appearing and disappearing targets, mobile targets, etc.

Still as regards firing ranges, we must remember the programme under way relating to the establishment of indoor and outdoor firing ranges for light weapon fire training, scattered in barycentric positions as regards groups of user units. Parts of the programme are under way, but the plan should be – budget permitting – accelerated and enhanced.

Lastly, I believe that the principal provision for a true quality improvement of the sector, tightly bound to the rationalization and enlargement programme of the training areas, should be a greater use of **simulation**, which is the most important point of my survey.

The connection comes from the belief that, despite all yearnings, the national reality will make it very difficult to find the right number of areas; the availability of modern simulation means seems, therefore, the only partial remedy for this

condition; on this, however, Parliament will have to express itself.

The above would however be useless if it were not accompanied by a policy aiming at reducing all the non-institutional engagements and, above all, the services connected with security, through an evermore extended use of anti-intrusion devices and electronic surveillance equipment.

In this respect, the use of a technical support, especially of an

informatic type, will have to be looked for in all branches of activity with an aim at reducing personnel while safeguarding or, even better, incrementing its performance.

Another urgent provision necessary to face future requirements, is the **search for space** for training activities.

Investment programmes, burdensome even if diluted in subsequent financial years, have to be carried out to face the need of improving what is already available

inconvenience. Simulators in fact, thanks to an informatic support for the elaboration of information and the evaluation of the results obtained, will make it possible to concentrate, within the limited space of a classroom or an infrastructure, those activities which up to now have demanded much larger spaces as well as higher costs. Moreover, due to the continuous development of electronics, these materials are becoming ever more solid and rustic and thus suitable for a general employment. Costs, unfortunately, are still very high and the personnel engaged must be very well trained.

On the other hand, we must consider that this equipment may supply very valid and varied performances suitable for the training of both officers and troops and allowing, for example, the following:

- classroom exercises for Command Posts with the War Game technique, destined to put aside the dusty sand tables reproducing a certain area of operations. The rules of the game may easily be transformed into an elaborative language by preparing special software to be suited to the already available hardware.

In this way we shall be able to carry out, in an atmosphere as close as possible to reality, all those activities connected with large scale operations, availing ourselves, within every Army Corps or Theatre, of standing organizations – such as Command Posts at the various levels – and of nuclei of specialized activators;

- unit training, through the use of systems operating at two different levels:

- the first, useful chiefly for the technical training of operators, may be employed in the classrooms where specially prepared patterns reproduce the external environmental situation and the weapon systems with which training personnel may act on the basis of the input to which it is subject. We may thus create cockpits, driving pits and/or turrets of armoured vehicles or special vehicles, missile launching sites, observation posts for Mortar and Artillery observer Officers etc.;



- the second level, valid for the tactic preparation of individual and units and to be used on the ground, formed by apparatus mounted on the weapons and combat vehicles. By exploiting laser technology, the above apparatus reproduce the sound and visual effects of the shots fired and arrived and thus allow to evaluate aiming mistakes and timely reaction following the sighting of an element similarly equipped. In this way, very realistic situations are created and the exercises between opposing forces become meaningful as they are no longer subject to the judgement of umpires who are not specialized.

Some of these systems are already available and usefully employed, such as the flight simulator of the CALE in Viterbo, those for tank driving of the Caserta Armoured Troops School and the simulators for missile launching posts as well as the Miles, already known to many. Others, instead, should yet be acquired in order to widen the range of training possibilities. Indeed, I would even say that the policy of supplies, already oriented in this direction, should magnify this aspect. The

Among future requirements we shall have to face the need for larger space, more fit for training activities.

relative simulator should be contextually adopted for every new weapon system or new line of logistic or working means entering service.

Following are examples of typical equipment which I believe should be available in the **classroom** and on the ground:

- among simulators used in the **classroom**:

- a system allowing the training of mortar and artillery Officers in the conduct of fire. This is made possible by using suitable software capable of simulating artillery and mortar fire on a battlefield projected onto a giant screen. This apparatus may also be used for training with other weapon systems (tanks, antitanks, antiaircraft, etc.);
- a simulator for training in the conduct of fire (available on the market) for tank commanders and tank gunners, allowing a class-room activity very close to reality. Personnel to be trained could avail itself of modules reproducing all the equipment of the tank and even the

noise of the battlefield.

— as regards **ground** activity, the already mentioned Miles system which is already in service but should be further employed (I know that there are good chances in this respect).

The above is made of equipment which is applied to various kinds of weapons and which produces lights and sounds by striking, with a laser beam, detectors set on "enemy" targets and vehicles.

Other methods for simulating direct aiming fire, working on the same basis as Miles, take into account the trajectory angle and thus the dispersion of fire.

The combination of activities using the above or similar equipment with practical activities on the terrain would make training more rapid and, at the same time, more efficient, besides giving personnel a better idea of the reality of combat.

The use of simulators extended to all the units and especially to those whose training is generally more costly and burdensome (tank units, artillery, helicopters, etc.), would allow a further exploitation of the firing ranges and munitions available: it would further allow combat vehicles to last longer.

Only by following the above indications, shall we be able to see in the near future units aiming at exploiting the natural environment, acting in real time and followed by a Directing Staff having control systems really capable of evaluating the efficiency of the operations carried out and of umpiring in a reliable way.

I conclude this quick excursus in the world of future training with a confident statement on the chances given by technology when sustained and integrated by the intelligence and imagination of qualified Cadres.

Allied countries such as the United States, Great Britain and Germany have already taken the above direction and this cannot but be a further encouragement for those called upon to decide on the issue. On the other hand, as I have already underlined, we too have taken the first steps with great satisfaction of those who have had the fortune of pioneering the

initiative.

We must persevere and point directly to the modernization of the training methods to avoid the deep-seated inadequacies which will unfortunately remain as regards firing ranges, equipment, etc., but especially as regards time availability for the training of combatants. Our future programme will therefore have to allow for the acquisition of simulating devices to be delivered to schools and universities according to a precise order of priority and, in this respect, it is of utmost importance to promote, as from now, the training of efficient instructors having an adequate professional background.

The above is ambitious and involves high initial costs, which will however be made up for in time by a lesser wear of vehicles and equipment and, mainly, by a considerable improvement of the training standard of units.

This is the objective at which we must aim; serious professionals having at heart the future of the Army must feel it as a precise moral commitment.

The acknowledged importance of giving the units an adequate, regular and continuous operational capacity is peremptory for a Modern army which, alas, is still lacking able instructors, motivated enlisted men, suitable, if not many, training areas and competitive weapons to be tried out in the firing ranges.

Undoubtedly, the saying "more sweating on the terrain of the firing ranges equals a lower death toll on the battlefield" remains true also for the training of the year 2000.

I wish to underline that the future will not greatly differ from the present.

The base used today will be valid tomorrow as well; the only new thing will be the intensive use of simulators, both to compare opposing wills in the training of the Cadres and to improve the training standard of men employing costly and complex equipment, vehicles and weapons.

Let's not however be deceived. In fact, a basic point must be borne in mind: when using simulating equipment, all that is spent on training, especially as

regards ammunition and fuel, cannot be reduced; it will be better and more efficiently employed but, I insist, not reduced. Therefore — in conclusion — the above mentioned aids will integrate, and not replace, specific training activities. Priority will still be given to time devoted to the employment of units on the training fields, in the areas organised "ad hoc" for particular requirements, in outdoor and indoor firing ranges and only subordinately will time be given to simulators.

Finally, I must again underline that the latter are equipment/aids designed to integrate and not replace or greatly reduce the standard training policy.

Raffaele Simone



Lt. Gen. Raffaele Simone attended the Military Academy, the Application School, the War College and the Joint Staffs Institute. He is a qualified air-observer.

Lt. Gen. Simone commanded the 1st Battalion of the "Granatieri di Sardegna" Regiment, the "Granatieri di Sardegna" Regiment, the "Mantova" Mechanized Division, and has held the office of Deputy Commander of the Central Military Region.

Staff officer at the Operations Branch of the Army Staff, he became Chief of the Ops and Tng Branch and, subsequently, Deputy Chief of Staff of the Central Military Region, Chief of Staff of the "Mantova" Mechanized Division, Chief of the Office of the Army Chief of Staff, Deputy Chief — and then Chief — of the 1st Division of the Army Staff.

Lt. Gen. Simone has been Commander of the V Corps since September 1985.

DEFENSIVE OPERATIONS

REPORT ON THE EMPLOYMENT OF MAJOR UNITS

PUBLICATION 900/A - VOL. 1



FOREWORD

Publication 900/A — Volume I — "Defensive Operations" is an update of the 1977 edition. Its outward look and the number and title of its chapters and appendices remain unchanged.

The reason which made a revisions necessary was the provision abolishing the divisional level; a measure that, in any case, has not entailed significant variations in the current regulations, the validity of which is essentially confirmed.

As a matter of fact, this provisions is not an absolute novelty, but rather one of the last steps in the reorganization process which, started in 1975, has been gradually accomplished through:

- introduction of the Brigade level in the organizational structure;
- almost total mechanization of the combat units;
- acquisition, completed or near completion, of means and weapon systems more and more effective and reliable, such as modern tanks, a combat vehicle — the VCC 80 — thanks to which the mechanized infantry can be completely "integrated" with the tank units, advances antitank weapons effective at various ranges (TOW, MILAN, FOLGORE, self-defence weapons) artillery with more powerful single-round effects and capable of extending their action in depth (FR-70 and MLRS, antiaircraft defence of the battlefield up to the foreseeable threat, etc.);
- entrance into service, in the near future, of completely automated systems for command and control, communications, acquisition of targets and survey of the airspace (CATRIN Project).

Already the initial draft of the doctrinal series 900, born together with the restructuring process, was largely in line with this complicated and gradual process of transformation.

Nevertheless, the publications had to keep into account some deficiencies in terms of means, and especially of command and control systems, which made it impossible to manage, simultaneously and in real time, a high number of "pawns".

Moreover the Brigade had to

be allowed a suitable "running in" period before it could fully assume the configuration of an elementary major unit, after discarding its regimental mould.

Hence the need to:

- continue keeping a scaling down element as a reduction gear in the command function, i.e. the Division;
- as regards the units, restrict their areas of manoeuvre as well as their operational and information scopes, within realistically acceptable limits.

Nevertheless the "series 900" was already oriented towards a transformation of the organizational structure, since:

- it already considered as normal the employment of "independent" Brigades also on the plains;
- it tasked the Division essentially with the coordination of the efforts of the subordinate elementary Major Units, thus sharing the characteristics of a complex Major Unit, such as an Army Corps.

Therefore, the abolition of the Divisional Headquarters represents the logic evolution of an organizational structure and of operational concepts already outlined.

THE ROLE OF THE MAJOR UNITS

The changes therefore concern essentially the roles played now, in operations, by the Corps and the Brigade.

In other words, the Corps takes upon itself, both in the tactical and logistical field, some of the support and coordination functions, which had been previously entrusted to the Division.

Hence the necessity to:

- increment, quantitatively and qualitatively, the tactical supports, especially fire, for the Corps must perform all of the functions of general support and, prospectively, also those connected with the neutralization of the second echelons of the adversary, according to the well-known "FOFA" concept;
- adapt the command, control and communication system, to match the increased number of "pawns" that must be coordinated;
- have a greater logistic

autonomy, in order to carry out the support tasks previously assigned to the Division.

The Brigade, for its part, is a full-fledged substitute for the Division in its role of key-element of the battle, since it coordinates the defensive efforts autonomously, and the outcome determines the manoeuvre of the Corps. Therefore, it will be given more autonomy in the planning and conduct of operations, both from the tactical and the logistical standpoint.

A similar autonomy ought to be given to the combat groups, whose operational capability shall have to be geared a priori to the type of combat envisaged, in order to make them fit for conducting, on their own, actions which, even on flat country, will turn out to be actual efforts.

That is essentially reflected on the layout and conduct of the defensive battle, i.e. on the formulation of Chapter V of the Report, where the most interesting changes have been made.

THE DEFENSIVE BATTLE

According to Volume 1 of the "900", 1977 edition, the Corps is, and remains, the protagonist of the defensive battle and in its conduct it harmonizes the defensive efforts exerted by the first echelon elementary Major Units, fed and backed up by segments of reserve forces, in combination with fire and strengthened by natural or man-made obstacles.

The defensive battle concerns a predetermined area — the battle area — divided in:

- containment zone, in which the restraining action is carried out;
- defensive position, in its turn divided into a security zone, in which the containment is carried out and concluded, and a resistance position, which constitutes the "core" of the entire systems, within which the enemy's offensive thrust must be exhausted at all costs;
- rear zone (of the elementary Major Units and Army Corps).

For the contact and containment action no substantial change was deemed necessary.

In fact it continues to be



planned at complex Major Unit level and carried out by a special contact-and-containment echelon, made up by adequately reinforced mechanized and armoured forces of Brigade size.

On the other hand, in particular cases, this action could also be entrusted to first echelon elementary Major Units especially in extremely compartmentalized environments.

For the action in the security zone the considerations are essentially the same.

Nevertheless, efforts will be made, more and more, to merge the action in the containment zone with that in the security zone; entrusting both to a single complex, thus avoiding dangerous shiftings of responsibilities in very limited depths (especially in our national reality) and in particularly delicate and fluid situations.

For the action in the resistance position the knots that had to be disentangled, particularly in the plains, were the following:

- at what depth the first echelon

Brigades and combat groups were to be deployed;

- which employment guidelines should be given to the elementary Major Units in reserve to the Corps;
- to what command level should the responsibility of containment be entrusted.

As far as the first question is concerned, it was deemed appropriate to increase the depth of the Brigade sectors up to 20-25 Km and that of the combat groups' sectors up to 10 Km, leaving their width unchanged. Such increments allow a full implementation of the regulation, giving the indispensable breath to the tactical groups, especially in relation to the proportion of space and the combination in space and time of the elementing tactical actions.

This was done considering, above all, the evolution occurred in the natural environment, in terms of urbanization. This phenomenon has drastically limited the areas that can be employed for manoeuvre and has therefore restricted the units within sectors which are too narrow

to contain units equipped — and more is going to come in the future — with weapon systems capable of providing high mobility and great firepower.

The sectors' increased depth permits instead a maximum exploitation of the incremental factors offered precisely by the presence of obstacle knots, constituted by the inhabited centres combined and integrated with man-made obstacles. Moreover, also the force supply, crucial for obtaining a correct development of the "advanced defence", entails the availability of sufficiently deep sectors in order to be able to reiterate the defensive tactical actions, before the combat groups or the first echelon Brigades themselves, pressed by the aggressor, reach their respective resistance positions.

All this is not at all in contrast with the principle of "advanced defence", which is not carried out with an all-out defence, for defence's sake, on border positions.

Instead, while refusing to



prearrange the surrender of space, one should get the maximum advantage from the manoeuvring capabilities of the available instrument, essentially armoured and mechanized, and from the restraining capabilities provided by obstacles.

Should the Brigades be forced into a progressive retreat by uncontrollable enemy efforts, they will have to stiffen their action in correspondence with rigid position, in order to protect the zone entrusted to them by the Corps. Practically, the first echelon Brigade accomplishes its action in an advanced defence, within an area approximately 20-25 Km deep.

But this is not its sole task. Here we touch the second point, i.e. the employment of the Corps reserves. These units, initially deployed, at least in part, in the area immediately at the rear of the area occupied by the first echelon Brigades (with a depth in general of at least 15 Km) will be directed to carry out the actions already envisaged by the "900": supply,

dynamic reactions, prosecution of the defence in depth.

The first two have the clear purpose of helping the first echelon Brigades. The third, i.e. the prosecution of the defence in depth, must be seen as having two goals, i.e. in case the battle in front takes an unfavourable turn:

- to wear out the adversary's progress and simultaneously conduct dynamic reactions aimed at pushing the combat forward;
- activate, in extreme situations, the position of containment, with the help of all forces recovered from the front and, possibly, of units received as reinforcement from the Theatre.

We have therefore reached the third problem: who is tasked with the activation of the position of containment hitherto attributed to the Division.

From what has been evidenced up to now, it is clear that the responsibility of activating the position of containment cannot but be traced back to the Corps, which:

- conducts the battle with a global vision and, within this framework,

has an accurate feeling about the stability or yielding of a determinate sector;

- has, in terms of forces available — i.e. the reserves — the possibility to activate the position of containment, because, very probably, the first echelon Brigades have been "used up" in front, according to the principle of advanced defence.

The activation of the position of containment, the definition of which is the Theatre's task, concludes the defensive manoeuvre carried out by the first echelon Corps in Defensive Position, in order to safeguard its critical area.

The above description regards especially the defensive operations carried out in a flat country.

In the mountains nothing much has changed, in that:

- the containment position will continue to be activated at Brigade level;
- the Army Corps, in case the battle takes an unfavourable course, will



be allowed to conduct a restraining action followed by a rigid resistance within the Rear Zone, as provided for by Volume I of Publication 900.

In relation to the mentioned Rear Zone, the abolition of the Division, which was tasked with the coordination of the activities in the Rear Zone of elementary Major Units, implies that this function must be assigned to the Corps, which, with a global vision, will take the necessary tactical measures (defence of the rear zone, deployment of the logistic executive organs, determination of the supply and evacuation routes, etc.).

In this whole context, the

existence of autonomous Rear Zones of the elementary Major Units is not justified any more, and, as a consequence, this zone is

merged with that of the complex Major Unit, which retains its denomination: Corps' Rear Zone.

CONCLUSION

As was evidenced in the foreword, there is nothing "terribly" new, but rather developments of concepts already outlined, which have been progressively consolidating with time.

On the other hand, the organizational provision of which we have examined the operational and doctrinal aspects, accomplishes a simplification of structures whose importance cannot be overlooked.

"Simplicity" is a cornerstone of all operations and one of the Principles of Warfare.

In substance, doing away with a link of the chain of command, means, also and above all, accelerating the development of the decisional process and adjusting the plans — during the conduct — according to the existing situation, thus eliminating the discontinuities that might occur instead, multiplying the "passages" between the units.

Clearly, the adaptations to the norm must be matched — and will be matched — by the instrument's increased capability to manage a higher number of elements in real time and to confront the threat in an operational environment marked by an even increasing dynamism.

The road taken by the Army to review its organization, together with the acquisition of new equipment, highly efficient and abreast of the times, will be an adequate answer to these complex problems.

DEFENSIVE OPERATIONS REPORT ON THE EMPLOYMENT OF THE MAJOR UNITS PUBLICATION 900/A - VOL. 1

RECRUITMENT AND PROSPECTS OF THE YIELD OF THE NATIONAL SERVICE



Recruitment is the total of the activities carried out by the competent organisms and aimed at making male citizens fulfil their liability to military service according to existing provisions.

The main organisms tasked with such activities are following:

- The General Directorate of the National Service, compulsory Recruitment, Militarization, civil mobilization and auxiliary corps, which once a year issues the conscription order, the call to arms and the relative provisions.

National Service Offices which:

- update and keep the roll of enlisted men and their personal files;
- compile the physical and psychological vocational files;
- examine the request of exemption from the draft;

Draft Boards which:

- decide the discharge for unfitness, temporary unfitness, or the enlistment for those deemed fit for military service;
- decide on the requests for exemption;
- supply the Recruiting Centres with the elements necessary for the formation of the service rolls and the contingents to be called to service.

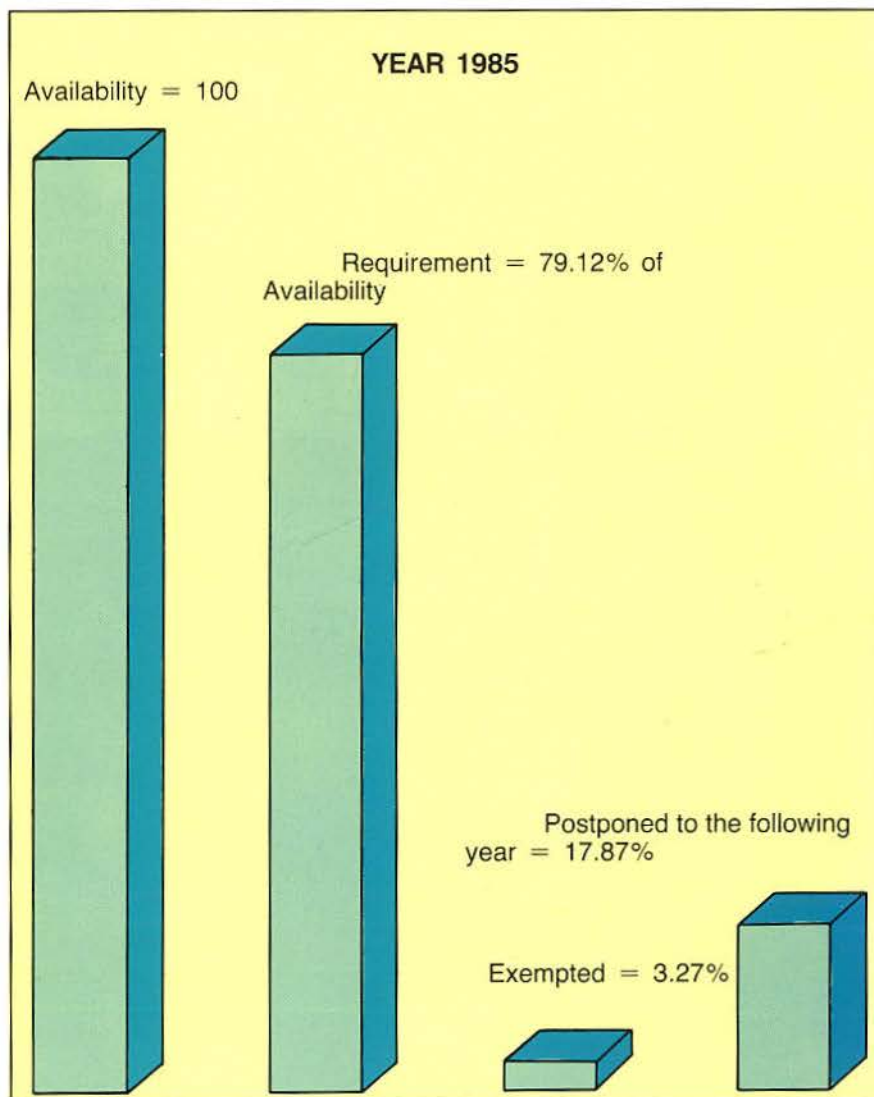
Military Districts (Recruitment Offices) which:

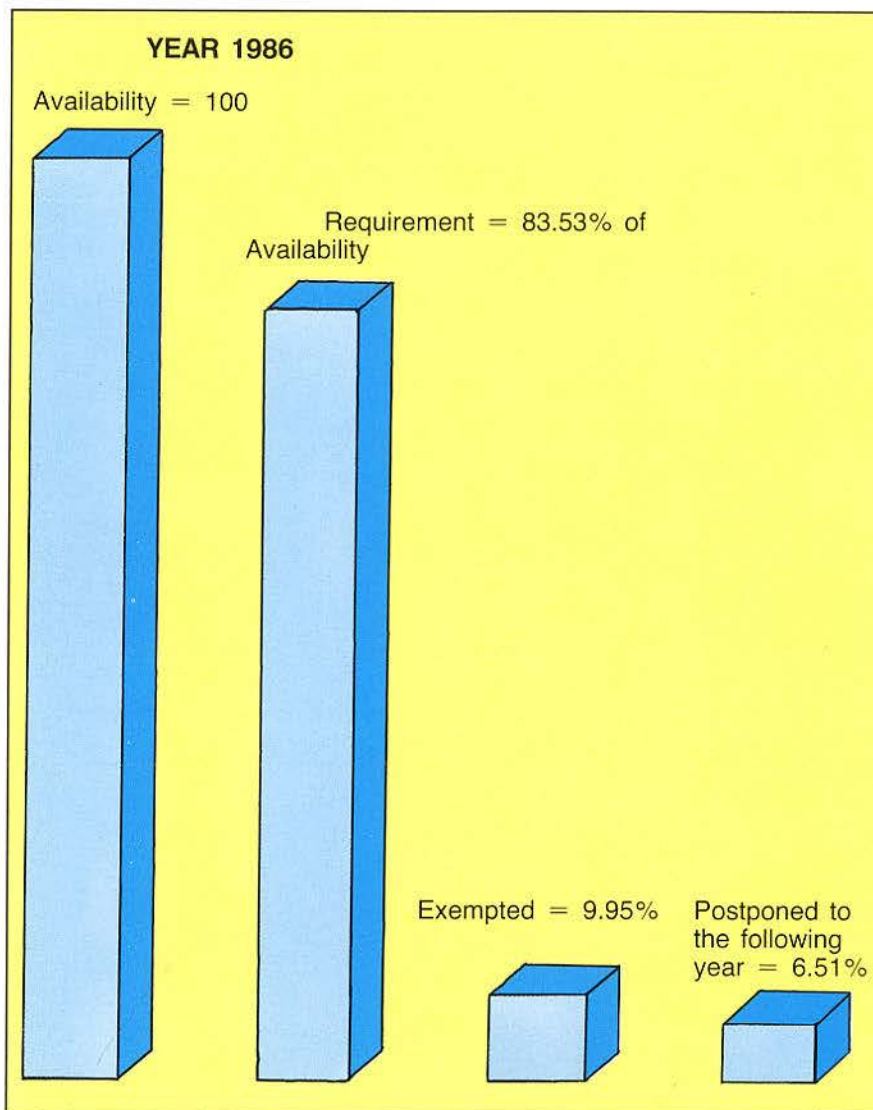
- grant the service benefits within their jurisdiction (delay, postponement, permission to go abroad, further medical exams, exemption, etc.);
- adjourn the service record of the recruited personnel;
- provide for the calling to arms of the recruited personnel;
- report to the military Legal Authorities those not responding to the call to arms.

Conscription, Recruitment and Mobilization Directorates, (recently established) which co-ordinate and control the activities of the Military Districts and Service Offices on the basis of the instructions issued by Levadife, the Defence central organ for Conscription and Recruitment.

Recruitment and national service as a whole are regulated by the following laws:

- Bill of 14.2.1964, no. 237 containing the basic rules on





compulsory service and recruitment within the Army, Navy and Air Force;

- Law of 31.5.1975, No. 191 introducing new regulations regarding military service;
- Law 24.12.1986, No. 958 which, besides introducing new regulations, modifies several provisions of the Bill 237/1964 and of Law 191/75.

The following is determined by integrative or specific laws:

- imperfections and diseases causing infirmity for military service;
- substitutive service in developing countries;
- conscientious objection;
- certain aspects of the delay for study reasons;
- service in other Corps of the State, considered as conscription service.

With a view at explaining more clearly the service-enlistment-recruitment process we shall briefly summarise the main activities as follows:

- entry of male citizens in the roll of enlisted men;
- call to the military service;
- medical exam of the enlisted men and relative provisions of discharge, postponement or enlistment;
- granting of possible benefits provided for by the law in force (postponement, delay, exemption, discharge, permission to go abroad, further medical exams, etc);
- call to arms;
- formation of the military service contingent. calling to arms and incorporation of the recruits.

As regards the formation of the Army and Air Force contingents in particular, it must be underlined that this is done through an automatic procedure.

In fact, when the recruits are called to arms and have to enlist for normal conscription or because eventual benefits granted hereto have expired, they are chosen electronically on the basis of plans established by Army and Air Force Staff which take into account the physical, psychological and vocational profile portrayed during the fitness exams and which establish the following:

- the assignment of the job and the allocation to the Arm and Speciality;

- the eventual non-allocation because of redundancy;
- the echelon in which recruits start service;
- the training department and the subsequent unit in which recruits will be employed for their service.

PRESENT SITUATION

The parameters required to establish the quantity and quality of young men to be incorporated are:

- requirement of Service "E": numerically represented yearly by the individual Services (balanced force);
- availability of recruits "D": made up of the year which must answer the call to arms for reasons of age and of those belonging to previous years, whose benefits have expired.

The present situation is represented by the relationship $E < D$.

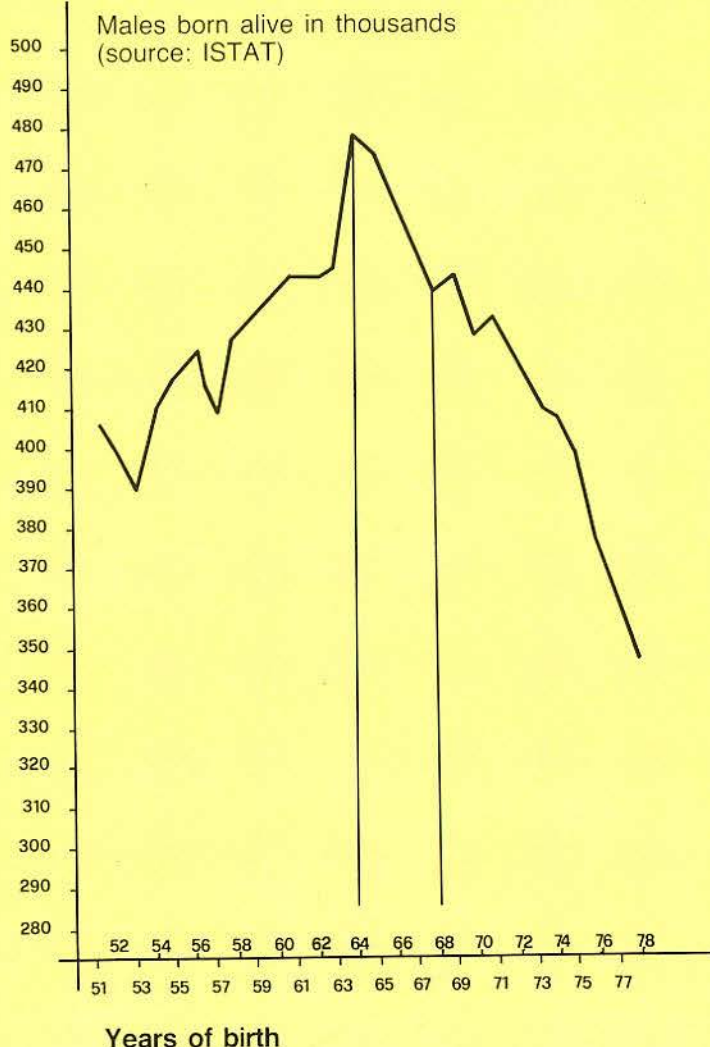
The surplus quota allows:

- to satisfy the requirements of auxiliaries (State Police, Fire Department, Prison Guards) and Carabinieri;
- to apply the regulations contained in article 100 of Bill 237/1964 as replaced by article 7 of Law 24.12.1986, No. 958, which provides for exemption from military service on the following basis:
 - safeguard the social and economic integrity of the family nucleus;
 - allow activities carried out by family enterprises to continue;
 - reduce the employment of recruits who are not wholly fit for military service.

EXPECTED FUTURE SITUATION

The data supplied by ISTAT and the survey of the historical information available show that there is a decrease in the birth rate. With this in mind and assuming a steady request by the General Staffs for the coming years, we may easily conclude that future projections will satisfy the requirement which will pass from $E < D$ to $E = D$ and, subsequently, to $E > D$.

TREND OF MALES BORN ALIVE (1951 - 1978)



The application of possible correctives will have to correspond to the above phenomenon and counterbalance the lower number of recruits, though only the General Staffs may decide on the size of the requirements.

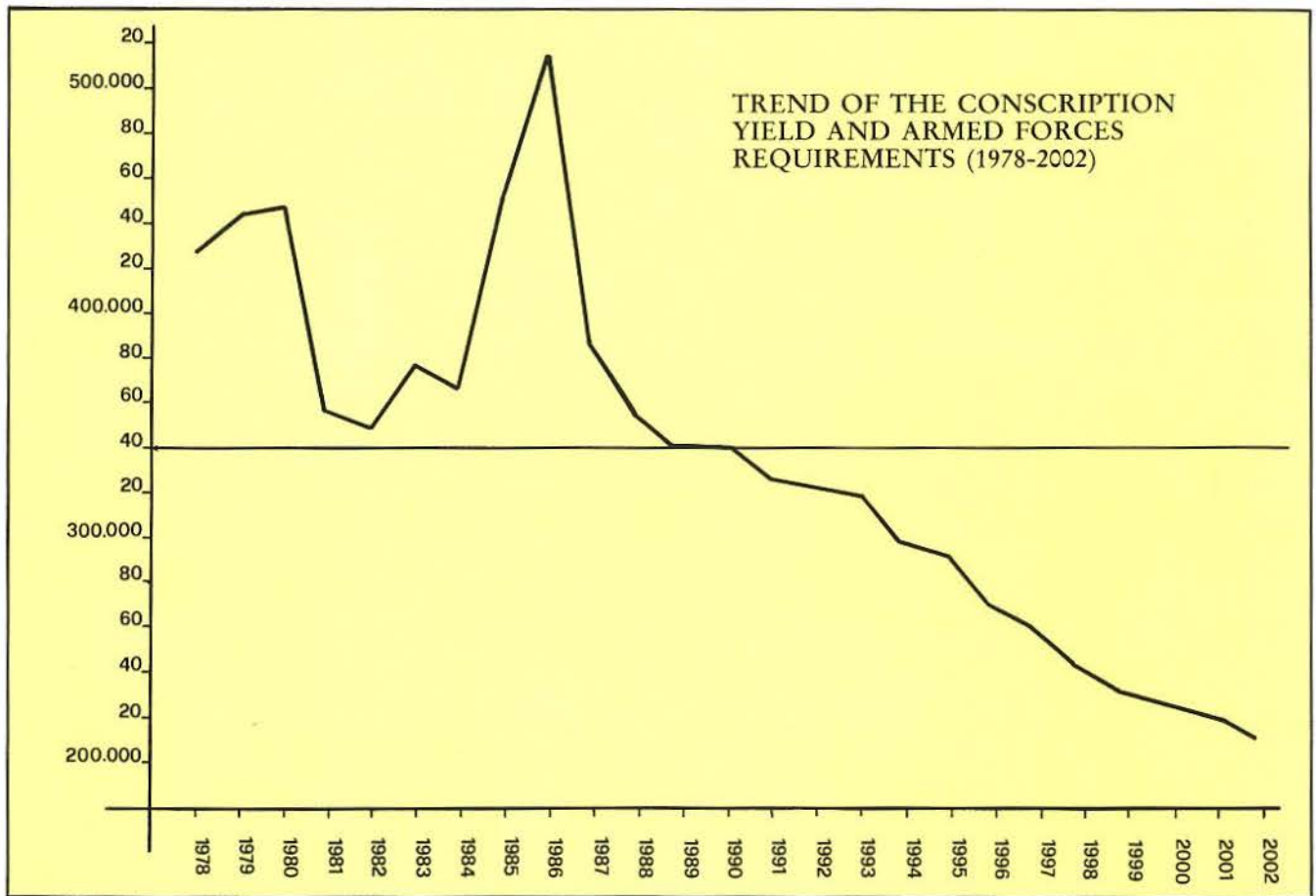
According to me, the corrective measures could be the following:

- eliminate the input to the Auxiliary Corps mentioned above;
- a considerable abatement of the exemptions provided for by article 100 of Bill 237/1964, as replaced by article 7 of Law 24.12.1986, No.

958, which, compared to the previous text, extends the possibility of exemption to a higher number of cases;

- a further examination of the problem of postponement;
- a larger employment of long term servicemen.

Franco Faina



Dr. Franco Faina has a degree in Law and in 1953 he became attorney for the Court of Appeal of Perugia.

During his career he served at the General Directorate of Navy Officers, at the General Secretariat of the Navy, at the Central Office for Organization, Methods, Mechanization and Statistics as Deputy Central Director, at the General Directorate for Pensions as Deputy General Director and, later,

as General Director.

He took part in several courses and seminars on the Science of Administration, both in Italy and abroad, and for over twenty-five years he taught Science of Administration at the School for the Civilian Employees of Defence. He also taught for approximately fifteen years at the Superior School of Public Administration.

Dr. Faina has been Chairman of the NATO Appeals

Board of which he is still Substitute Chairman.

Since January 25, 1984 he has been General Director of National Service, compulsory Recruitment, civil Mobilization, Militarization and Auxiliary Corps.

Moreover, Dr. Farina is Chairman of the Discipline Board for Civilian Employees of Defence and a member of the Didactic Committee of the Superior School of Public Administration.

RECRUITMENT AND PROSPECTS OF THE YIELD OF THE NATIONAL SERVICE



MILITARY SERVICE FOR WOMEN

FROM THE MILITARY MAN'S POINT OF VIEW



I shall examine the problem from the Military man's point of view: that of the "majority of military men" of which I shall try to be the spokesman; the spokesman of what is their **main opinion at the present time**.

Therefore, in this respect it will be the point view of people with a specific experience and a particular culture:

- the **experience**, matured in over thirty years spent in the barracks within the units (from the lowest to the highest level), commanding both enlisted men and Cadres, Officers and Non-Commissioned Officers;
- the **culture**, obtained with specific studies of a technical and historical kind, which has its roots in century-old military events.

To limit the length of the article and to keep to the point, I shall avoid vague analyses on the female condition and similar experiences in foreign armies (because they concern social conditions very different from ours).

I shall instead bear in mind the peculiarities of the Italian society and those of the "woman universe" in this society.

In order to give a sufficiently clear and incisive picture, I shall follow the interview method, in which I shall play both the role of the interviewer and that of the interviewed, and I shall try to make the innermost reasons of the pros and especially the cons stand out.

The first question may be synthesized as follow: **Woman YES or Woman NO?**

That is: is there a real possibility of putting women in the military world?

Before answering the question, we must remember that the *raison d'être* of the Armed Forces is to **intervene** at the **break-out of war** or in case of serious domestic crises. The institutional tasks derive from this *raison d'être*. In **order of priority** these tasks are the defence of the national territory from potential outside aggressors, the defence of the republican institutions, intervention in case of public calamity.

This stated, can women operate exactly like men at all levels?

No matter how strange it may seem, the answer is: **certainly yes in war; maybe not as much in peacetime**. I shall now try to explain this statement.

War is a particular, serious and unfortunate emergency; it certainly is a deprecable phenomenon, but it is likely to last a "determined period of time". In war, the particular conditioning of the feminine element (sentiments, family sense, specific aptitudes and **mainly** maternity), precisely due to the climate of **emergency** and **determinate time**, may be sacrificed and therefore, (because of this temporary renunciation) **women are not different from men** and nothing can prevent them – especially in Armed Forces ever more subject to the most advanced technological innovations – from performing almost all their engagements, with the exception of those where physical ability and brute strength prevail over intellectual demands.

I shall mention just one of the many examples; the doctor, the medic, the operator within a command post, a transmission centre, a Unit headquarters; neither can anything prevent a woman from becoming an administration officer or a technical corps officer, carry out Military Police tasks, command a ship, fly an aircraft or drive a tank.

And when peace "breaks out?" In the long periods of "normality", away from the demands of **emergency** and **limited time**, the conditioning typical of the feminine element may spring up again and oppose military requirements in time of peace, such as total availability, the need to submit individual emotional priorities to the requirements of continuous services repeated in time, transfers, exercises, field manoeuvres, etc...

We must ask ourselves if maternity and the care of children may go together with the burden of continuous repeated services in time of peace. This is the reason why I believe that women are a little less suitable for the Army in **time of peace**.

In sum, the answer to the

question **Woman YES Woman NO** is most certainly "woman YES", with some doubts linked to the harder physical engagements in general and particularly to the limits (maternity in the first place) connected with the tasks which mark the military service in time of peace.

The second question regards the dilemma concerning **how** to insert women in the military world; **voluntary or compulsory enlistment** (i.e. conscription)?

The Director General of Conscription has pointed out the technical and juridical reason which postulate the military service of women: decrease in the yield of enlisted men; equal rights and duties for men and women. From the military point of view, the problem may be examined from another side: that of the relationship between Commander and commanded. One may wonder how enlisted men, culturally conditioned to obeying male Officers and Non-Commissioned Officers, would accept orders from female Officers and Non-Commissioned Officers. Would they accept to have to obey to female military operators who have never played and who, by law, should never play the role of exclusive executors? Would this submission be felt as unacceptable discrimination?

On the other hand, technical motivations such as the decrease of enlisted men and the juridical evaluations derived from the principle of equality of sexes may bring to favourable considerations regarding **compulsory service** for women.

Moreover, compulsory service, being of short duration, would create some of the "emergency and limited time" elements found in war, which would play in favour of the employment of women, who would temporarily give up their own vocation and peculiarities.

However, it must be remembered that men too, sometimes, face compulsory service burdened by worries, reservations and prejudice. And yet, right from an early age, they are mentally oriented and culturally conditioned by the service to be accomplished.



Is there a real possibility now to put women into the military world?

How would women react, unable as they are to find in tradition the reasons for accepting such a burden?

Due to the above considerations, though in favour of compulsory service for women, an intermediate passage would seem necessary: **voluntary service, also as enlisted women, on a two year term.**

This form of recruitment, in fact, would, at first, allow women to get to know the military reality (and its structure) and to accustom themselves to typical military attitudes and behaviours.

At a further stage, there could be an extension, an extension up to conscription also for women, on the basis of the experience data

matured.

In sum: volunteers or conscripts?

The logical trend would be conscription, considering that with this form of enlistment the above mentioned conditioning regarding the problem commanded/ Commanders would not exist for a well-determined period of time. In practice, however, for a gradual, experimental, initial approach it is necessary to accept voluntary enlistment, extended to long term service for enlisted men. We must commit ourselves to treasure the experience and obtain useful indications for a possible successive passage to conscription.

Third and last question: will the presence of women change the "Modus operandi" of the Armed Forces? Will it influence, and in what measure, their **efficiency**?

Let us say immediately that **yes, certainly**, the "modus operandi" will undoubtedly be affected and there is no reason to believe the contrary.

As regards the second part of the question, however, (whether the presence of women would affect the efficiency of the Armed Forces), then the answer will have to be more detailed and bound to the very **concept of efficiency** (of an apparatus of a particular nature such as that of Defence).

To start with a well-known reference, it may be useful to take as an example the **efficiency of an industry.**

The efficiency of an industry is bound to typically managerial factors and requirements, of an intellectual, professional, organizational kind, together with personal sensations, intelligence and common sense; the industry must be organized and managed with the least possible waste of energy and must make the best product at the lowest price.

The Armed Forces too, ever more subject to modern technologies, adopting ever more sophisticated means, require their Cadres to possess ever more



How to put women into the military world: volunteer service or conscription?

refined managerial capacities.

There is no reason to think that these capacities could be reduced only due to the presence of women, (women's capacities certainly equal those of men).

We must however bear in mind that this kind of efficiency, typical of the entrepreneurial world and of other kinds of organizations (such as the State Railways or a company), does not cover all the requirements of a Service. This too may seem a paradox, but I shall prove that it is not.

In fact, there are a number of requirements that make the Army different from the industry and the Commander from the manager.

We all know that at all levels a Commander must have the same qualities as a manager; however,

there is no doubt that such qualities are necessary but not sufficient. A Commander must **also** have a series of aptitudes and character capabilities which is already difficult to find in the masculine universe: he may be called to be the arbiter of the destiny of other men (friends and foes), to choose with cold determination whom to appoint to dangerous operations, whom to ask – if necessary – to sacrifice his life; he must often incite others to hate the enemy, to fight him without old-time "pietas", he must impose himself with the strength of his own role, without tolerating hesitations of any kind.

Hence the perplexity deriving from this question: a woman, our woman, the woman we know through ancient and authentic "Italic" culture, the eternal bearer of good sentiments, the bride, the mother would she be able to express the warlike qualities mentioned above?

I am obviously talking of normal women, not of exceptional ones, not of the "Rambo" woman,

not of the terrorist, not of the female world-record holder for deepwater immersion, but of the stereotypical Italian woman.

In short, it is not yet possible to give certainties and we cannot but confirm the doubt that women may in some way positively affect the efficiency of the Armed Forces.

In conclusion. The survey, carried out according to the military man's perspective, gives reasons to be in **favour** of putting women into the military world, in spite of some reservations which do not so much regard the units, agencies or levels (from private to Chief of Staff) in which to employ women, but rather those tasks which, requiring accentuated physical qualities and determination, may not be congenial to women.

In brief, the answer to the question **Woman YES - Woman NO**, in the opinion of the military is **Woman YES**, but in time of war more than in peacetime, for the particular situation of **generalized emergency**, though **limited** in time.

To make clear the terms of

Will the presence of women change the "modus operandi" of the Armed Force? Will this affect their efficiency, to what extent?

the choice between volunteer service (for Officers and Non-Commissioned Officers) and conscription the former at present is deemed more suitable, in consideration of the fact that, in any case, this new road which sees the Italian woman wearing a military uniform must be taken with some caution.

The reservations in this dilemma regard the relationship Woman-Commander/**only men** commanded (enlisted men).

The idea of employing women in the conscription service must be considered, for the service recreates the "limited time" which in the previous question prompted us to answer "woman YES in war" not so much in peace.

Lastly, the efficiency, a question that has been asked in order to find, deep inside the answer, the real convenience of embarking also women on this boat.

We may overlook the changes to the "modus operandi", we may accept women managers, technologic women, women directors; but what about the woman Commander, army leader, warrior?

This dilemma could be solved only by experience, by that



concrete and real experience which we hope we shall never have to live.

For the time being the experience we are getting ready to face is that of volunteer military service for women in peacetime.

It will be for future professionals, called to find a solution to this phenomenon, to work so that common sense will prevail over prejudice, intelligence over pessimism, courage over non-commitment, progress over fear in all situations typical of peacetime or - if unfortunately necessary - in wartime.



Goffredo Canino

Lieutenant General Goffredo Canino attended the Military Academy, the Application School, the War College, the Joint Staffs Course and the Spanish Army War College. He was platoon leader at the "Mantova" 114th Infantry Regiment, company Commander at the "Calabria" 59th Infantry Regiment and Commander of the 1st Battalion of the "Torino" 82nd Infantry Regiment. Gen. Canino has also been Commander of the "Legnano" Mechanized Brigade and "Folgore" Mechanized Division. He has been Chief, Operations Section, III Corps Hq.; Staff Officer, Plans Section, Army General Staff; Deputy Commander of the Central Military Region.

He has been awarded the decoration of Grand Officer of the Order of Merit of the Republic of Italy, the "Mauriziana" Medal, the Silver Medal for Long Command, the Gold Cross for Service Seniority and the Spanish Cruz Blanca al Merito Militar de Segunda Clase.

Since 1985 Lt. Gen. Canino has been Director General of the Directorate for Army Officers.

MILITARY SERVICE FOR WOMEN

From the Military Man's Point of View



FORTS AND SHELTERS



OF THE DOLOMITES



About twenty years have elapsed since the spring of 1916, that bloody spring in which, while the last snow was melting, the Italian troops began to make bloody attacks on the fortified Austrians positions along the whole front of the Dolomites. For many months, the summit of Cadore and Ampezzo witnessed acts of valour and daring alpinistic pursuits which, however, couldn't substantially change the situation until the snow of the second winter of the war (the dreadful winter 1916-17) again paralyzed the two adversaries. During the following year, until the unfortunate November of Caporetto, the front of the Dolomites (except for some small adjustments) remained the same as that reached by the Italians in the first days of the war.

As a witness to two and a half years of a war fought on an immobile front (which passed through places which only a few alpinists were acquainted with) imposing remains were miraculously left — not only of trenches and grottoes, but also of buildings, roads, bridges, cableways and dizzy pathways. They were the effects of the unwearied labour of the two armies. After the war, those untouched memories became, with a peculiar nemesis, an open-sky goldmine for the humble and peaceful work of the "recoverers". To their work, and to the systematic demolitions accomplished afterwards in order to remove any metallic structure, were added the natural action of time,

The still intact bed of a road built by the Italians at Forcella Bois, at the foot of the Castelletto, with the memorial tablet of the units that built it. In the background, the Cortina d'Ampezzo Valley.



carelessness, and sometimes deeds of unwitting vandalism.

The progressive increase of mass tourism has caused new interest in the survival of World War I remains. In fact, a wide number of people, including the new generation, have been caring for those memories, so much so that most of the routes of war have acquired new life. It is sufficient to cite, among many other instances, the main Italian fighting-line on the ridge of Mount Cristallo, which was restored by the guides of Cortina d'Ampezzo after half a century of neglect. It has become one of the most visited and evocative attractions of the Dolomites. To this phenomenon is linked the constant interest, which is continuously, increasing, in the memorialists works dealing with the battles which took place on these most famous mountains.

On the other hand, however, the possibility of damaging or altering things has much increased, often in consequence of heavy interventions in the Alps (such as the building of cableways or the

breaking through with explosives and excavators) aimed at promoting the mass-practice of skiing.

In any case, all these actions had in common a lack of consideration for the objects on which they intervened. Both those who restored a war pathway and those who demolished an old hut were sincerely convinced that they were acting upon material of no intrinsic value, which, as such, could be modified at will, according to the needs of modern life. Sporadic signals have recently been appearing, however, of a new awareness from some fractions of public opinion.

Noting with satisfaction this fact, it must be clearly affirmed that the traces left on our mountains by the Great War are a cultural heritage. They are an integral part of that common patrimony which has to be maintained in order to be handed down to the future generations. They therefore deserve the same attention and protection which is, or should be, bestowed on any other historical monument left from the past. The

Italian barrack-huts at the foot of the Castelletto, in the Tofane massif.

remains of war, considered individually, appear to be of the humblest values (one can be astonished at the proposal for solemnly qualifying as a "cultural heritage" a little dry wall half-eroded by time), yet they, as part of a whole, become of fundamental significance for the history of our country and of Europe. From this standpoint, they do not differ from the historical centres of our cities, where it is not so much the single building that counts, as the whole of the urban tissue, which therefore is protected in every part. It seems needless to linger over the cultural importance of the remains of the Great War in their being an



Austrian barrack-huts at Son Pauses (Cortina), the Key position of the Austro-Hungarians, which blocked the way from Cortina to the Pusteria Valley for three years.

unreplaceable document of a tragic and glorious page of history: on the other hand, names such as Col di Lana, Castelletto, Sentinella Pass, still retain, after so many years, a terrible evocative force. Besides, the protection of the remains of the Great War becomes an act of homage towards a whole generation of Italians, Austrians, Hungarians, Czechs, Slavs and Germans, who lived and suffered among those crags and caves, often leaving their lives there.

Finally, there exists another point which has hitherto been given little importance. Perhaps for the first time in history a vast number of men was obliged to live

continuously in one of the most uninhabitable environments. This exacted an unprecedented effort of production, organization and creation from the States, the armies and the individual men involved. It was, in fact, necessary to tackle the whole alpine front with tasks of real urbanization of the mountain (building roads and lodgings, conveyance systems for men and materials, hospitals, even aqueducts and electric lines), for which both the most advanced technologies of the time and the traditional handicraft techniques were massively employed. It must also be pointed out that soldiers and officers coming from the civilian community have often transfused their specific competence and culture into these particular circumstances and environment. Some very hazardous roads and entrenchments clung to the rocks could not have been conceived but by experienced mountaineers. Only skilled miners, returning from emigration in Belgium and France, could have built the famous Italian mine-galleries. Furthermore, in the

photographs of the time, shelters often seem like Alpine refuges, being, as they are, refined by adorned balusters and well-finished window sills: certainly the work of soldiers who were nostalgic of their carpenter's and mason's trade.

An elderly "recoverer" told the writer he saw an Austrian wooden hut (now destroyed) where soldiers of the Gardena Valley were quartered; they, remembering their handicraft tradition and taking advantage of the long pauses of quiet left them by the mountain war, had transformed the interior into a large carved bass-relief.

Having verified the need for a work of protection and restoration, the problem arises about how to put it into effect. This article only means to offer some considerations of a general character.

First of all, an initiative of the private association "Dolomitenfreunde" (Friends of the Dolomites), between 1973 and 1981, must be mentioned. It was mainly aimed at restoring the Italo-Austrian positions on Mount Piana, in order to transform the whole



The entrance to the tunnel of the Castelletto.

mountain into a big "Museum of Peace" in the open air. Such an initiative was made possible by the decisive intervention of the IV Army Corps which has supplied, for a long time, considerable logistical support (vehicles, personnel, field kitchens, helicopters) indispensable to the success of the works, to which also the Associazione Nazionale Alpini contributed, with many volunteers.

Regarding the results achieved, some interventions deserve a clearly positive judgement (especially the restoration of tracks, the execution of topographic surveys, the affixing of road signs and others).

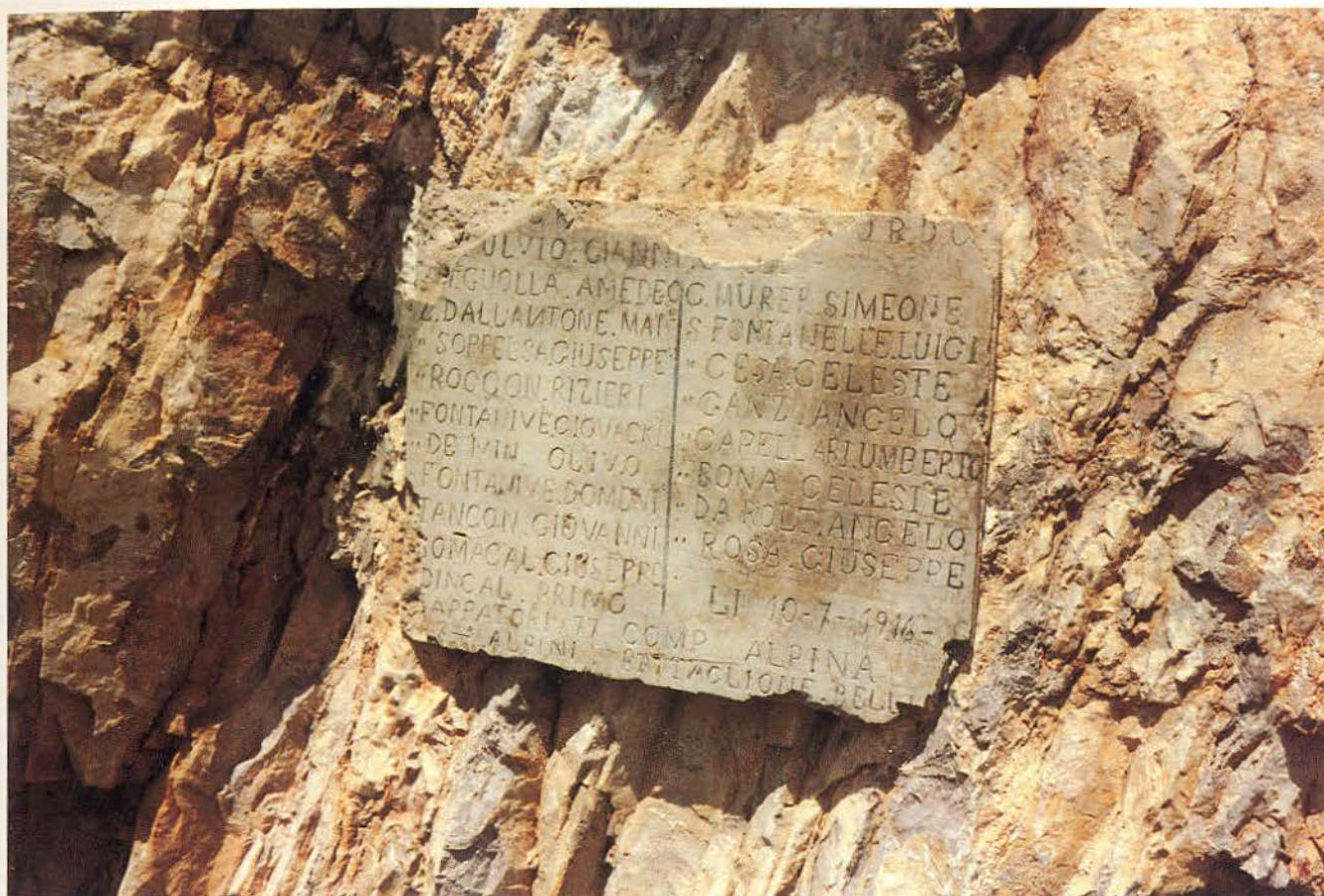
On the contrary, other aspects, like the rebuilding, with modern material, of some entrenchments, or of a certain martial "scenography", is in contrast with the correct principles for restoration which must be applied to cultural monuments.

In the light of this experience, the need emerges for a precise reference framework, capable of harmonizing each

intervention to be made by the potentially interested elements. In fact, it would not be reasonable nor realistic to suppose that the public institutions would be able to face by themselves the work of restoration of the Dolomitic front. Indeed, this seems to be one of the fields where cooperation among private citizens and public authorities could prove extremely fruitful, especially for the large number of unexpensive interventions which can be made. In this sense, even the occasional restoration of a pathway by a mountain community, or the restoration of a hut or wooden bridge for the sake of tourism would be included in an ampler context, provided these interventions follow clearly pre-established standards and could be properly controlled. It is not the case, obviously, to call for rigorous regulations and "fetishistic" operative criterions, more consistent with an archeological excavation (the principle should be maintained, however, of clearly distinguishing restoration and modern integrations from the original structures).

What is needed in any case, is a methodological approach and the detection of minimal priority objectives. One of these, besides the ordinary maintenance of what is still standing, should be that of assuring the "readability" of the pathways and trenches, avoiding both alterations aimed at the comfort of tourists and too radical and anti-historical, as well as too expensive, remakings.

We add a specific suggestion: the recuperation of the war toponymy and, together with it, the drawing up of historico-thematic maps showing all the details of the front and the emplacements, should be undertaken by the Istituto Geografico Militare. They would be indispensable tools for the beginning of correct restorations, and of utmost use to the public,



A memorial tablet on the side of the Tofana di Rozes, placed in July 1916 by the Alpini of the "Belluno" battalion.

which would be invited to "read" and be acquainted with the events of the war.

In fact, only a few war names have been accepted by the post-war cartography, while many others (concerning places of modest geographic importance, and therefore anonymous, although around them the thoughts, the

anxieties and emotions of hundreds of men had been centred for months) have been abandoned. And precisely these ones could be recuperated.

At the beginning, the restoration could be effected only on a well-defined and limited sector of the front — a few famous emplacements or a single mountain — in order to refine the methodologies, estimate the time and costs of the operations and solve the possible problems of coordination that could arise between the various institutions concerned. In this regard, the role

which the Army could play is worth stressing: it should not be limited to mere, though most useful, logistic support, but extended to contributions of studies and specific technical expertise. We are thinking in particular about the IV Army Corps, which, in this way, would strengthen even more the ideal bonds which tie it to the most glorious pages of the history of the "Alpini".

Daniele Ravenna

FORTS AND SHELTERS OF THE DOLOMITES



National Institute of Economic and Social Research
Policy Studies Institute
Royal Institute of International Affairs

Joint Studies in Public Policy

THE TROUBLED ALLIANCE

ATLANTIC RELATIONS IN THE 1980s

Edited by
Lawrence Freedman

Lawrence Freedman (ed), "The Troubled Alliance - Atlantic Relations in the 1980s", Heinemann, 1984, 170 pages, £. 7.50.

The politico/strategic cohesion of the Atlantic Alliance has always been placed in jeopardy not only because the European members of NATO and the United States have diverging interests, differing perceptions of the threat, and different strategic approaches, but above all because of Europe's inability to unite and coordinate its own economic and security policies. This has made the Alliance lopsided, so that instead of being a formal partnership it is an alliance under the leadership, if not the hegemony, of the United States. Europe's inability to look after its own security or even defend itself on its own, has meant that the Alliance's policy has had to give priority to American interests, eroding the plausibility, the acceptability and hence the credibility of the West's security system.

This is nothing new. Back at the beginning of the Sixties, Kissinger spoke about a "troubled partnership". Since then, things have changed little, even though in the Eighties there are new challenges, which are sorely testing the cohesion of the Alliance. The points of divergence relate to many different areas, often in contradiction to each other: détente with the Soviet Union, concerted action in the ambit of the Alliance, particularly as far as arms control negotiation are concerned; the problem of Western security on the areas outside NATO; the West's economic relations with the countries in the Communist bloc; NATO strategy, with its ambiguities.

One of the most relevant issues in relations across the Atlantic is the change in the political leadership of the United States, and the fact that the Pacific is increasing in importance, both for the economy and the security of the United States. This is creating even more tension and misunderstandings, and

these are being exploited in domestic policy terms. The present situation is characterized by continual adjustments, questioning and uncertainties, even though it is unlikely that any radical changes will be taking place. All the scholars that have contributed to this volume agree on that. It is not likely that relations across the Atlantic will deteriorate to any dramatic degree because it is in both Europe's and the United States' vital interests to keep the Alliance alive. The only chance of creating more balanced and stable relations is by increasing the integration of European policies and resources. This alone could help Europe to catch up with the United States, reduce Europe's strategic and technological dependence on the United States, and making it possible for Europe to effectively improve her conventional defences.



Maurizio Cremasco (editor), "The Italian Military Instrument - Problems and Prospects", published by Franco Angeli, Milan, 1986, 151 pages, 13.000 Lire.

This book contains the proceedings of a conference convened by the Institute of International Affairs, which was held in Rome in June, 1985, to deal with the main issues relating to the role of the Armed Forces, the doctrine of their use, and their structures. It was intended to be a contribution to the debate on the so-called "defence model", which has been particularly lively in the past 5 years.

The essays in the volume take a broad overview of a rich variety of subjects: the general framework of Italy's security and defence policy, namely, the roles and specific duties of our Armed Forces, written by Stefano Silvestri; the scenarios of crisis and confrontation, analyzed by Maurizio Cremasco; the concept of defence and the development of postwar military doctrine examined by Virgilio Ilari; the basic problems of the defence budget

which appears still to be characterized by a deep rift between structures and what is really available for them, by Michele Nones. All these essays, and specifically those written by Pietro Scagliusi, Franco Ferri and Pierluigi Bortoloso, deal with the much debated problem of inter-Service integration. Obviously this does not relate to the advisability of integration *per se*, which is taken for granted by everyone, but the practical ways in which to bring this integration about. Strengthening horizontal coordination between the Services must not affect the capacity for vertical coordination, which is best assured by having different Armed Forces, each with its own form of "patriotism" or, if you like, corporatism, which is capable of maintaining and cashing in on the living force of tradition. In an organization like the military, which is not an inanimate technological organism, differentiation plays an important part not only in terms of the efficiency of the Armed Forces but also of the political control over them, and their integration in the ambit of the Atlantic Alliance. The lack of inter-Service integration, and the absence of organizations to run national policy and strategy are part and parcel of a policy of renunciation, passivity and delegation of decisions to others, which has characterized Italy's security and defence policies since the war. They also play a functional part in the structures of the Italian political system, which often work because of the lack of specific institutional/administrative bodies that are able to act as a "container", which the political system would never have been able to fill, particularly, in times of emergency or crisis.

The basic problem of Italian defence is how to reconcile the desirable with the possible, namely, matching force needs resulting from the analysis of the threat to every inter-Service mission against available resources. Unlike the threats, which have to be considered separately, mission by mission, resources are shared by all. Their breakdown between the various missions has to be effected on the basis of clearcut choices in a given order of priority. When the financial resources roughly match the needs, the choices are easy: by postponing programmes, by trimming operating costs, by giving up marginal operational capabilities or ancillary services of the various weapons systems, you can make ends meet. But when the gap is very wide, decision-making becomes difficult and always needs long term planning, a framework of reference which is essential for each contingent measure. Selecting resource allocation priorities is the central problem. In this book, the essays are necessarily descriptive and raise problems without attempting to propose solutions or policies. This is also because the data on the problems involved have not been sufficiently debated and thrashed out, and because there is a lack of basic data at the disposal of the strategic analysts outside the institutions on which to base their assumptions for the alternative allocation of available resources and appraise the significance of each in terms of the operational capabilities that could be



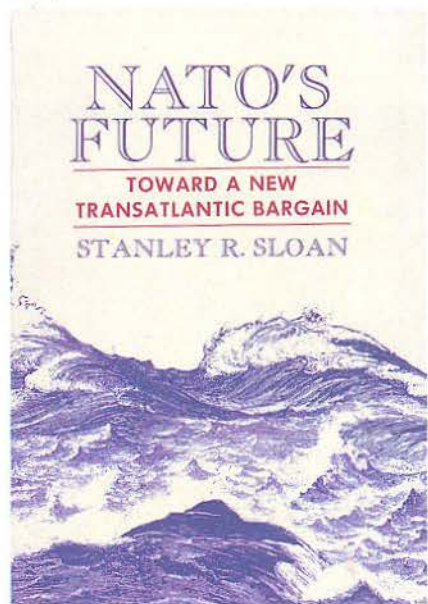
realized and the policy/strategic functions that could be performed. None's contribution clearly highlights the difficulty of reading the budget in policy terms, and the difficulties encountered despite the considerable effort being made to subdivide the budget for inter-Service operational missions, even though this is evidently no panacea. The breakdown per mission is more a means adopted to explain the choices rather than being a tool for planning and taking the decisions that underlie the financial choices.

Cremasco, Ilari and Silvestri clearly bring out the fundamental choices that have to be made to match demands and resources. There are basically three such choices: first, top priority must once again be given to the north-east, as it used to be until 1975; second, priority must be given to the defence requirements of the Mediterranean and also to military intervention outside Italian territory; third, a compromise has to be struck between these two needs, focusing on flexibility and mobility. The authors all favour this third option. But in practice, this turns out to be a non-choice, and at all events it empties individual operational missions of any significance and individuality. If the instrument is flexible — and this is something that depends essentially on strategic mobility and the force' multirole features — planning has to be designed not in terms of independent missions, but as straightforward duties (tactical subconcepts that are consistent with general operational concepts) to be performed according to doctrinal and integrated force use concepts. This is the procedure generally adopted abroad, except in countries which have clearly characterized military components that can be handled separately, as in the case of nuclear forces in contrast to conventional forces.

In our view, a choice must be made, not so much between the set of specific missions (northeast defence, southern defence, interventions outside the national territory) and common missions (air defence and territorial defence), but between the first three. In this context, the choice is more political than technical, and it can be likened essentially to a choice between possible threats and threats judged to be probable according to an appraisal of the enemy's intentions. Stefano Silvestri sets out the problem very clearly in his essay. While the solution he suggests — focusing on flexibility — is extremely reasonable from the technical point of view, it only seems to be partly able to solve the basic problem of Italian planning. If forces to be used for other missions can be for external use, and if air support for the northeast can also be used in the south, and vice versa, the basic problem relates to two terms that can be defined as "non-interoperable": the dimensions, quality and operational readiness of the land forces, and the dimensions and quality of the naval forces, and the definition of the real role that Italy must, or can, perform (which in many ways is the same thing) in the Mediterranean.

Basically this is a book which provides both an interesting and stimulating contribution to today's debate on the "defence model" and

the structural planning of the Armed Forces and the clarification of the basic terms of the problem. What can be done to deal with the increasingly worrying gap that exists between the demands of the structures and the availability of resources.



Stanley R. Sloan, "NATO's Future - Towards a New Transatlantic Bargain", National Defense University Press, Washington, 1985, \$ 6.50.

The Atlantic Alliance will remain the cornerstone of Western European and United States' security for a long time yet.

The only things that could render it useless would be the internal collapse of the Soviet Union, or a far-reaching transformation of Soviet society or the Soviet political system. These are only hopes for some people in the West, while others fear them happening, because they believe that a more vulnerable Soviet Union in the medium term would lead it to attack while it still had a certain degree of internal cohesion and conventional superiority.

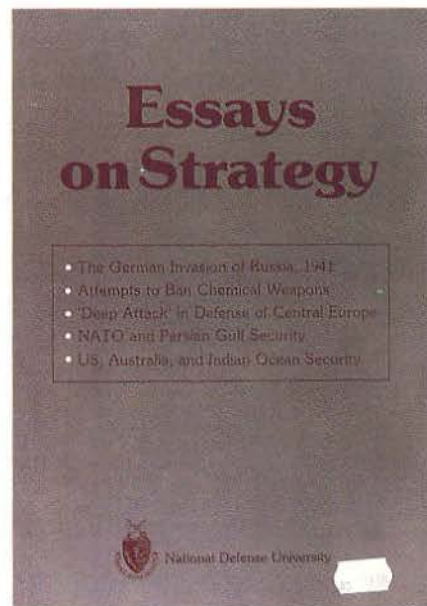
No realistic policy can be based on such improbable assumptions. It is likely that in the next few years the Western countries will have to go on maintaining an acceptable balance of forces with the Soviet Union, which is the basis of détente and peace in Europe.

From this stems the need to adapt the Atlantic Alliance to conditions as they change, redressing the aspects which make its cohesion most vulnerable. There are basically two of them: the excessive predominance of the United States and the overly broad role entrusted to nuclear weapons. The former threatens to erode the support of US public opinion for the cost of keeping substantial forces in Europe, while taking responsibility out of the hands of the Europeans for looking after their defence. The latter is creating serious difficulties in European public opinion, independently of their questionable

military value.

In the past few years, the cohesion between Europe and the United States, which is the keystone to the validity of the Alliance, has been the subject of controversy several times as a result of not only strategic/military differences but also economic/political divergences, concerning relations between Europe, the United States, Eastern Europe and the Third World. These problems have to be adequately solved, to prevent the Alliance from being eroded from within. One of the main politico/strategic problems that needs solving is the threat the exists in the external areas, and the question of sharing the burden of common defence. But the differences must not be exaggerated, and we must avoid subordinating the essential long-term objective of maintaining cohesion between Europe and the United States to contingent political interests, or to slogans that trivialize the complexity of reality, whose sole purpose is to ensure internal cohesion, without taking account of the possible reaction of the allies.

The main measure that needs to be taken is to promote closer European integration, not only in the area of the development and procurement of new weaponry, but also in the strategic/operational field. The WEU could be used as an effective forum for European concentration, and it would be advisable to conclude agreements along the lines of the ones recently signed by France and West Germany regarding the use of the five Divisions of the French Rapid Deployment Force to support NATO's advanced defence.



Various Authors: "Essays on Strategy", National Defense University, Washington DC, 1984, 158 pages, \$ 4.

This book contains a collection of five essays written by students of the National Defense



University, winners of the annual competition which the University runs for its students. They deal with the German strategic plan for the invasion of Russia (Operation Barbarossa); the ban on chemical weapons; the implications of the doctrinal concept of "Deep Attack" for the defence of the NATO Central Region; Atlantic cooperation for security in the Persian Gulf, and the prospects for closer cooperation between the United States and Australia for the security of the Indian Ocean.

All the essays are very interesting and well documented, and provide excellent bibliographies.

The two articles which are of particular relevance are the ones dealing with Deep Attack — which is the distinctive feature of the United States operational doctrine (FM 100-5 of August 2, 1982) — and the problems of the Persian Gulf.

As far as Deep Attack is concerned, the author states categorically that it is strategically incompatible with the flexible response doctrine, that it is politically unacceptable to the Europeans, particularly the Germans and that if it were ever to be adopted, even in a watered down form to suit the contingent European situations, it would mean reliving less on nuclear weapons and would mark a shift away from a détente doctrine towards a war-fighting doctrine.

Yet the pessimism of the authors of the essay in relation to the applicability of the concept to European conditions is slightly attenuated by the gradual increase in conventional defences in Europe, and the fact that the Air-Land Battle doctrine refers to the operational level of the Army, not the Theatre, as in the case of the Rogers doctrine of Follow-on Forces Attack (FoFA).

Regarding the possibility of European-United States cooperation in the Persian Gulf, the authors are extremely cautious. There is no doubt that the possibilities do exist, in the case of Britain and France. But it is probable that the United States interests differ from those of both Britain and France, making it extremely questionable whether joint operations could be carried out. Some kind of European cooperation, however, even if only symbolic, could help to cover some of the main political and psychological vulnerable points on any unilateral action on the part of the United States going it alone. In particular, it would give the action greater international legitimacy and could enhance the support of American public opinion for any decision taken by the US government in this connection. One thing that could prove to be extremely important is the granting of transit bases and logistical facilities for the US Rapid Deployment Force, because these would be of critical importance for the effectiveness of any action conducted so far away from the US home bases.

This is a realistic viewpoint, which no one can deny. But even a minimal degree of European support for American schemes depends on prior agreements and understandings, and these could turn out not to be very compati-

ble with the need to be able to take decisions rapidly, which could only be obtained if the United States were able to take unilateral action. Naturally, this would be costly: it would raise tensions in the Alliance, and would foster a feeling of frustration in both European and American public opinion.

NATIONAL SECURITY: ETHICS, STRATEGY, AND POLITICS A Layman's Primer

Robert L. Pfaltzgraff, Jr.

Foreign
Policy
Report



INSTITUTE FOR FOREIGN POLICY ANALYSIS, INC.
IN ASSOCIATION WITH THE FLETCHER SCHOOL OF LAW AND DIPLOMACY, TUFTS UNIVERSITY
PERGAMON-BRASSEY'S

Robert L. Pfaltzgraff Jr.: "National Security: Ethics, Strategy and Politics — A Layman's Primer". Institute for Foreign Policy Analysis, Pergamon — Brassey, Washington, 1986, 43 pages, \$ 9.95

Since the war, the security debate in Western Europe and the United States has increasingly been concerned with the ethical aspects of foreign policy and strategy.

The reasons for this new state of affairs are not only the emergence of nuclear weapons, the greater destructive power of conventional operations and the direct involvement of the civilian populations, which has blurred the distinction between combatants and noncombatants — namely, one of the main achievements of Western civilization — but also the greater importance of public support for any strategic option.

One only has to think of the way the traditional, albeit unofficial, Catholic teaching on just war has changed with John Paul II's recognition of the purely temporary ethical acceptability of nuclear deterrence, and the Catholic Bishops' pastoral letters, particularly the US Bishops, which risked creating serious cleavages in the United States.

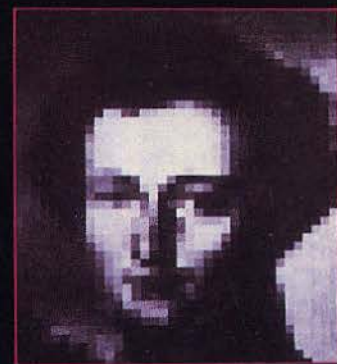
The author of this book, who is one of the world's leading strategists and the president of the Institute for Foreign Policy Analysis, Cambridge (Mass.), examines various issues connected with this. Obviously, it is a very broad

subject area, and has to do with a view of the world, the future of mankind and the system of international relations. The book is intended to be an introduction to stimulate the reader to read further and debate the issues. It therefore describes the problems, and tends to raise problems rather than solve them.

The issues raised are grouped under five headings: nuclear deterrence, the dimension of international conflicts at the end of the 20th century, relations between the United States and the Soviet Union, US global security strategy, national security policy and arms control. The book ends with a bibliography that is essential reading for anyone interested in the subject.

Time and time again, the author contrasts Utopian hopes and the realistic — or pessimistic, if you prefer — approaches, which are the ones that governments follow in the end. For governments, rushing ahead blindly in a way that might threaten national security is unacceptable. These are the real issues, and the political and military authorities have to find convincing answers to them, or risk losing public support and the substantial legitimacy of security and defence policy.

CLAUSEWITZ Michael Howard



PAST MASTERS

Michael Howard, "Clausewitz", Oxford University Press, New York, 84 pages, \$ 3.95

After all kinds of heady ideological brainstorming on the subject of the comprehensive reorganization of the system of international relations and the elaboration of new theories about international security, political realism and traditional common sense are now gaining the upper hand in the West. As a result, the greatest military writer of all times, Karl



von Clausewitz, is once again an indispensable benchmark for anyone dealing with the problems of war and peace, and anyone intending to go beyond the occasional and the contingent to elaborate a theory of war.

The Prussian general's theories are still as valid as ever, particularly his answers to various fundamental questions such as, is it possible to elaborate a theory of war? What relation must this theory have to strategic practice, namely, with the elaboration of doctrines and the conduct of forces in combat? What relations exist between war and politics, and what is the instrumental and subordinate significance that the former should constantly keep in regard to the latter? What factors act in war and what are the relevant parameters that policymakers and strategists have to consider?

This little book by one of the world's leading military historians, whose impact on current Western strategic thought is at least equal to that of Raymond Aron's, Liddel Hart's

and André Beaufre's, is an introduction and a guide to the ideas of Clausewitz, and highlights with penetrating historical sensitivity the issues that were relevant to the technological, social, political, strategic and above all cultural contingencies of his day, and the things that are equally relevant to the modern world, despite the emergence of nuclear weapons, the existence of two opposing blocs and the strategic importance of domestic policy and the backing of public opinion.

Howard holds that the weapons of mass destruction and the doctrine of their use, stemming from the development of the doctrine of the mastery of the air, give concreteness to the insights of Clausewitz of the category of "absolute war" (which is quite different from the concept of "total war"), making it possible to wipe out the enemy with a single heavy blow, instead of moving through a succession of tactical acts conditioned by space and time magnitudes, chance and the "attrition" of circumstances, which made war controllable and

limitable — i.e. "political". Absolute war is now based on nuclear reprisals, is apolitical and hence unthinkable and unacceptable. This does not mean that war has changed its nature as a tool for politics. It is politics that has changed. The new weapons make it necessary for political objectives, and hence the military means used to pursue them, to be constrained. Moreover, the fact that citizens play a greater part in public affairs today, means that war objectives cannot any longer be restricted to destroying the enemy's armed forces and occupying its territory. Today, the population has to be won over, too.

Without this, war objectives cannot be attained in the long term any longer. Human geography has acquired an importance equal to, if not greater than, physical geography.

by Carlo Bess

GRUPPO VITRERIE INDUSTRIALI ROMANE

Via dei Ruderici di Torrenova 72, 00133 Roma TEL. 6144752-6144251-6143135 FAX 6144600

SUPPLIER TO MILITARY ORGANIZATIONS

*Bullet - proof, anti-breaking, anti-robbery and fire - proof casings and glasses - insulating glass doors (THERMOVIR)
Supplies for building trade and furnishing.*



TEO. RUFFLE GROMOLITZ



PER
LA CULTURA
LE TRADIZIONI
E L'IMMAGINE
DELL'ESERCITO



RIVISTA MILITARE

JOURNAL OF THE ITALIAN ARMY FOUNDED IN 1856



MARCH
APRIL
1988

LIRE 4,000
\$ 4
D.M. 6
£ 3



CIRO DI MARTINO
Social and military
aspects of
technological
development



LUCIO INNECCO
Iran-Iraq
an anomalous war



GIULIO PRIMICERY
The Carzano
Betrayal





European
Military Press Agency

**RIVISTA
MILITARE**

BIMESTRALE
Supplemento al n. 2
della Rivista Militare

Direttore responsabile
Pier Giorgio Franzosi

Direzione e Redazione
Via di S. Marco, 8
00186 Roma
Tel. 47357373

Pubblicità
A cura della segreteria
dell'Ufficio Rivista Militare
Tel. 6794200.

Stampa
Tipografia FUSA Editrice s.r.l.
Via Anastasio II, 95 - 00165 Roma

Spedizione
in abbonamento postale
Gruppo IV - 70%.

Condizioni di cessione per il 1988
Un fascicolo: Lit. 4.000
\$ 4 - DM 6 - £ 3
Un fascicolo arretrato: Lit. 8.000
\$ 8 - DM 14 - £ 6
Abbonamento Italia: Lit. 22.000
estero Lit. 30.000. L'importo deve
essere versato su c/c postale
n. 22521009 intestato a
SME Ufficio Rivista Militare -
Sezione di amministrazione -
Via XX Settembre 123/A - Roma.
I residenti all'estero possono
versare l'importo tramite assegno
bancario o vaglia internazionale.

Autorizzazione del Tribunale
di Roma al n. 944 del Registro
con decreto 7-6-1949.

Fascicolo curato da
Gian Carlo Torcelli

CONTENTS



Number two 1988
March-April

The aim of Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.

Politics, Economics and Strategy

- 2 Social and Military Aspects of Technological Development
(Ciro Di Martino)
- 14 Iran - Iraq. An Anomalous War
(Lucio Innecco)
- 28 The Conventionalization of Nato
(Mario Sardo)



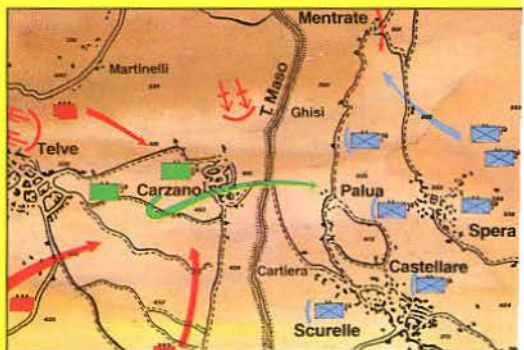
Science, Technology and Training

- 34 Mechanized Infantry: Features, Role, Prospects
(Mario Buscemi)
- 40 Helicopters in Combat: the Employment of Scout and Attack Helicopters in the Nato and Warsaw Pact Armies
(Giovanni Tonicchi)



History

- 58 The Carzano Betrayal
(Giulio Primiceri)
- 70 The Finnish Military Museums
(Marco Pasquali)



© 1988

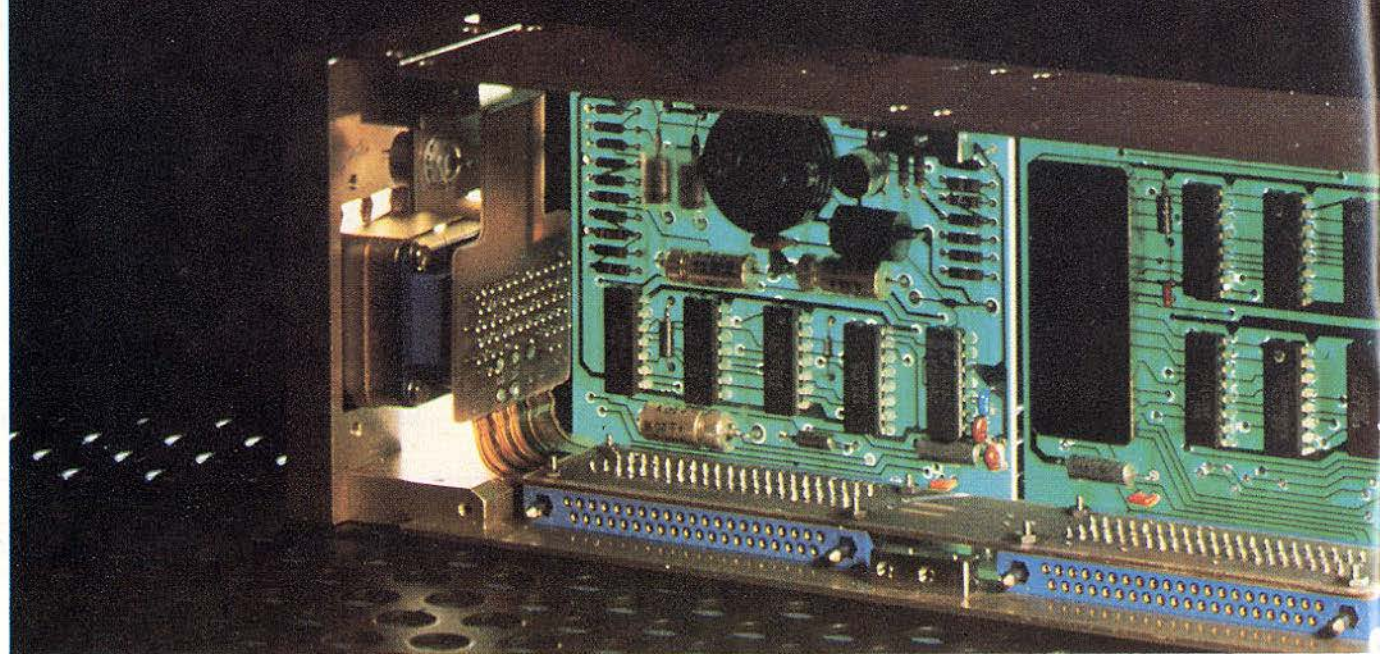
Proprietà letteraria artistica
e scientifica riservata

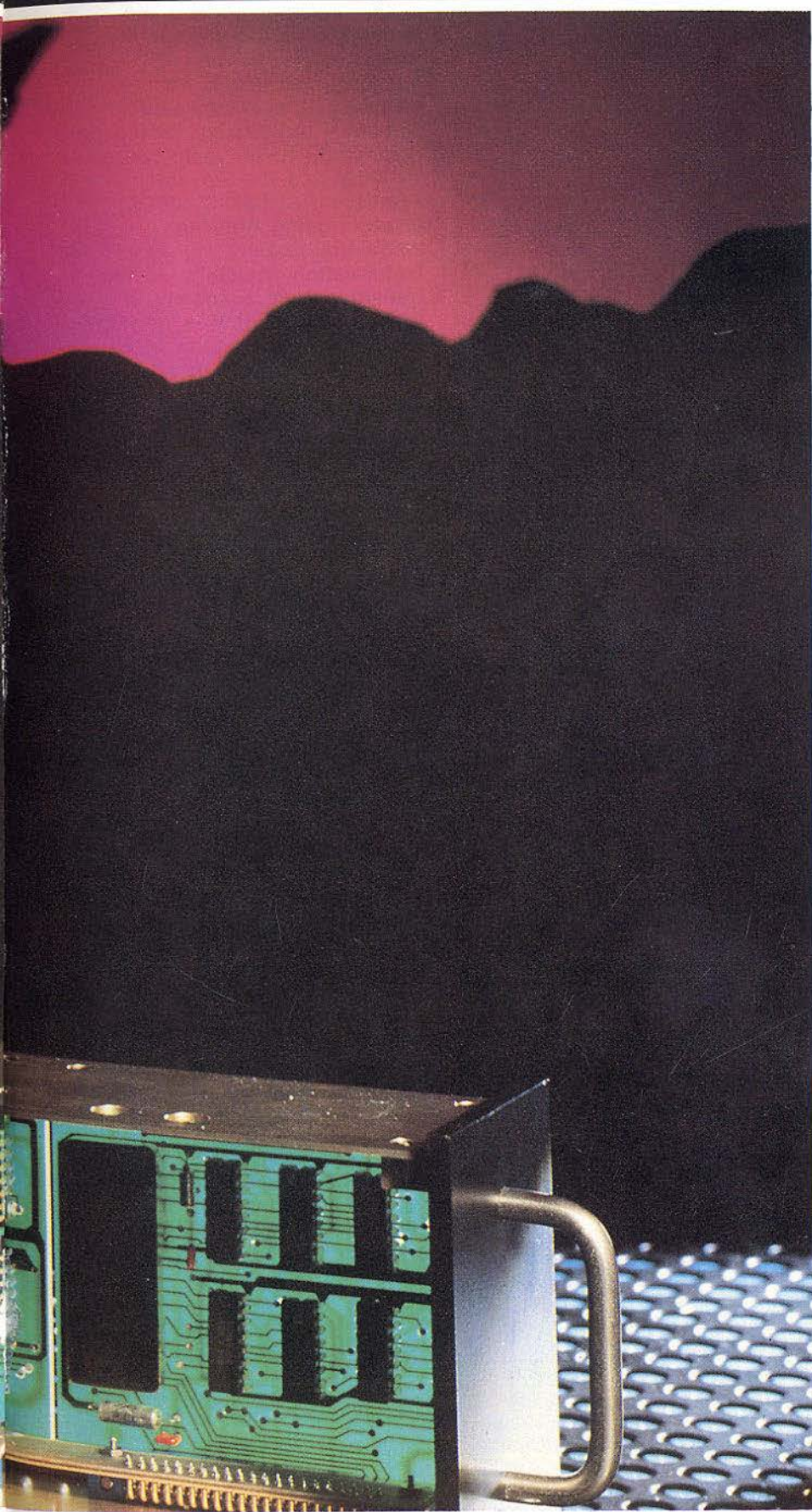


Member of USPI
Unione Stampa
Periodica Italiana

Rules for contributors. Anyone can contribute. In the interest of the maximum objectivity of information, Rivista Militare allows contributors considerable freedom, although it does not necessarily subscribe to their opinions. The articles are published unedited and free of any editorial constraints and are therefore the sole responsibility of the Author and reflect his personal ideas exclusively. The topic must be treated in an original way and the article themselves should not exceed 10 typewritten pages in length. The Author, got his reward, makes over his exclusive article right to Rivista Militare. Rivista Militare can make over Author's exclusive article right to other publications and to the periodicals of EMPA (European Military Press Agency). The articles should be accompanied by the necessary photographs, drawings and explanatory tables. Each Author is requested to send a photograph of himself, together with his "curriculum vitae" and a 10-line summary of the article to be published. Rivista Militare reserves the right to alter the article's title and to choose the typeface in which it is set.

SOCIAL AND MILITARY ASPECTS OF TECHNOLOGICAL DEVELOPMENT





The revolution which we are experiencing in the technological field is one that has few equivalents in the history of mankind: a history marked by milestones, each of which bears the name of a particular discovery. Our thoughts go to the "plough", the "wheel", the "techniques for melting and working metals", the "gunpowder", the "printing press", the "steam engine",... and so on, up to the employment of "nuclear energy".

These are landmarks which indicate the advent of something which increased man's capabilities to work and to produce, and modified his relationship with nature.

Hence the impacts, not scarce and not negligible, on the social plane and on the communal life itself.

In the course of its long history, mankind has experienced enough radical turns. They have been tagged with the "progress" label, which meant to underline an improvement in the material and spiritual field.

The turn in this direction can be identified in the past century. As a matter of fact, in the nineteenth century learning and technique are blended in a productive osmosis which tends to accelerate more and more the process of interdependence of the various components of modern culture, which are by then free of the old divisions, often based on prejudice.

Technology was born in this atmosphere, as a quest for coordination of more and more sophisticated phases and methods of construction, in order to provide the social environment with products suited to the increasing needs deriving from the changes of habits, economy and civil dynamics.

As a matter of fact, in the western world the technological innovation is proceeding at an unmatched pace. As soon as a new technology reveals its economic profitability, as soon as it proved itself capable of



reducing the production costs or of fulfilling a new need, it is promptly adopted by an enterprise or an industrial group.

Hence — in a tangled chain of causes and effects — the consumers' culture, a phenomenon which grips our society in a mechanism absurd in many ways, but irrepressible by now because it involves interests of incalculable proportions.

This negative implication is counterbalanced by positive elements, such as an increased possibility for the producing industries to create new jobs.

A greater circulation of money, the raising of the less prosperous, thanks to the acquisition of goods and benefits which were beyond their reach in the past, the equalization of the various social "classes".

In the present historical phase — marked by the "nuclear" immanence and the miracles of "electronics", the need of security — emphasized by the threats of a nuclear

holocaust — activates mechanisms that speed up research and produce the absolute need to know (to know everything, at once), bringing to the forefront another of the absolute protagonists of the present times: information.

I do refer to the information needed to ward off a threat in a correct assessment of the strategic relation, but I also mean any other kind of information needed to work successfully in a world where the reference value of concepts such as "time" and "space" must be reconsidered.

In this connection it is

Today's man appears in fact less and less prepared and willing to live and work without electronic assistance. He is a man who by now succeeds in being himself only when seen in symbiotic association with an electronic device

interesting to point out the remarks of John Naisbitt in "Megatrends" where — analyzing the social trends emerging from complicated computer processings based on data gathered for many years — he states that we are witnessing a radical social change, going from an "industrial society" to an "information society"; i.e. the transition from a society in which the economy is no more exclusively founded on industry, but is also — and mostly — based on information.

According to his outlook, the new basic strategic resource is the "know-how", which is progressively replacing the "capital", which had played that role in the preceding industrial society. In Naisbitt's opinion, the beginning of the turn should be placed in 1956, when in the United States for the first time the number of "white collars", who performed technical, managerial and clerical functions exceeded that of the "blue collars" who worked in industry.

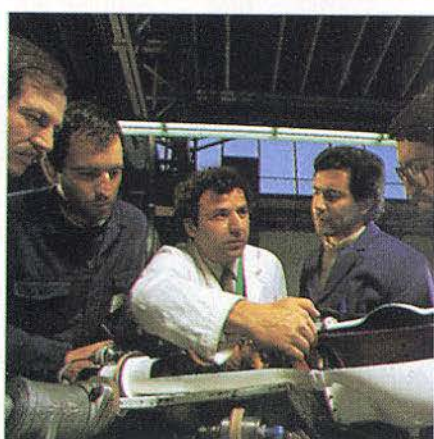
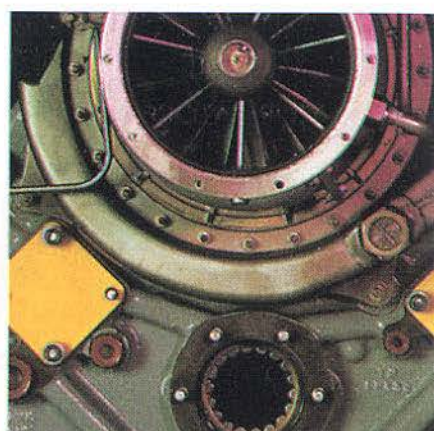
Industrial America was making way for a new society where, for the first time in history, most people worked with information instead of using the tools of production.

The following year, 1957, marked the beginning of the informatic revolution on a world-wide scale: the Soviets launched the "Sputnik", the technological catalyst which had been missing, until then, in a developing "information society".

Seen in the light of the development of social relations, the real importance of the "Sputnik" is not that of having started the space age, but rather the introduction of the "age of planetary communications via satellite".

In a similar perspective, the successful launching and the fantastic reentry of the "Columbia" space shuttle, occurred in 1981, must be reinterpreted. The event was much more important for its immediate impact on our





"information society" than for the future developments in the field of space exploration.

With no intention to minimize the importance of the "Sputnik" and the "Columbia" in opening the way to the skies, it is a fact that the satellites have transformed the Earth in what Marshall McLuhan called "a global village". Instead of making us look into space, the satellite age has made the globe turn onto itself. Beyond the social phenomenon and the global dimension, the electronic revolution has deeply, almost biologically affected the members of the more developed communities.

Today's man appears in fact less and less prepared and willing to live and work without electronic assistance. It is a man who by now succeeds in being himself only when seen in symbiotic association with an electronic device (radio, TV, tape recorder, computer, etc.); a man who has little to share with his forebears of only fifty years ago, who — bound to the

patterns of a tradition that had its force in a society proceeding at a slower pace, trusted for their choices only in their capability of analysis and evaluation.

On the contrary, today's man makes his decisions with the help of data — gathered mostly by others — relying on a capability of evaluation, through which advantages and drawbacks, possibilities and risks, favourable facts and vulnerabilities are pointed out to him.

Having deputed the gathering and the analysis to external bodies and systems, is left to him, nevertheless, the

The need of security — emphasized by the threats of a nuclear holocaust — activates mechanisms that speed up research and produce the absolute need to know bringing to the forefront the information.

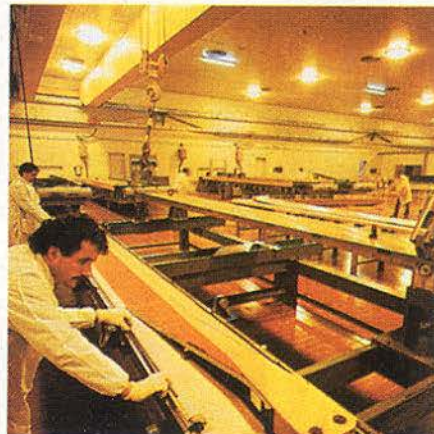
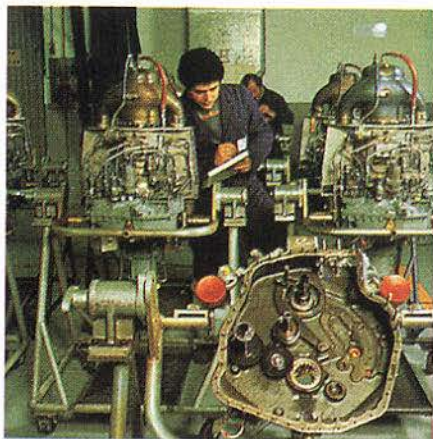
much-coveted privilege of choice, a splendid prerogative owing to which the anthropocentric conception of the universe has still its reason d'être.

After all — echoing the Sophists — "man is still the measure of all things".

The progressive and swift diffusion of the "data banks", a consequence and, at the same time, a support of the informatic revolution which involves the most disparate sectors of organization and production, represents a phenomenon that deserves the greatest attention, owing to the obvious impact it can have on the freedom and privacy of the individual.

The environments in which remarkable deposits of information are already available are many: starting from the "private", suffice it to mention tourism, publishing trade, advanced services, industry, banking: moving to the "public" sector, it is enough to mention the taxpayers' registry, the





criminal and police records, the Health Service, the Conscription lists (which permit, for instance, to make a screening of whole generation brackets as regards physical and psychological conditions) and, finally, the national census which, when it was taken, was looked at with worry and suspicion by many, due to the considerable amount of personal information to be entrusted to a computer card.

The possibility to link this enormous amount of data into a system, a possibility which will increase in the future, can have highly positive effects as regards the improvement of the standard of life, but can also have negative effects if one considers the possibility to centralize the information for purposes of control and surveillance.

No doubt there can be dangers of various kinds looming, all in the name of efficiency, rationalization and simplification.

In this connection I should like to cite the warning written

by Alvin Toffler in his «Previews and Premises», about the necessity to pursue the "democratization of knowledge" encouraging the technologies suitable to this end, such as — for instance — the "personal computer", seen as the main tool for spreading knowledge and gaining admittance to an enormous bulk of information in every field.

Here is what he says: "It is certain that some of the new technologies represent a threat. Others, on the contrary, strengthen the power of the individual... An intelligent policy

Today's man makes his decision with the help of data relying on a capability of evaluation, through which advantages and drawbacks, possibilities and risks, favourable facts and vulnerabilities are pointed out to him.

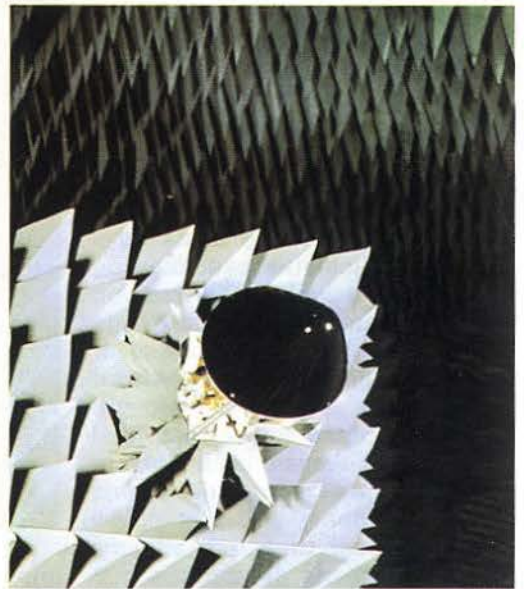
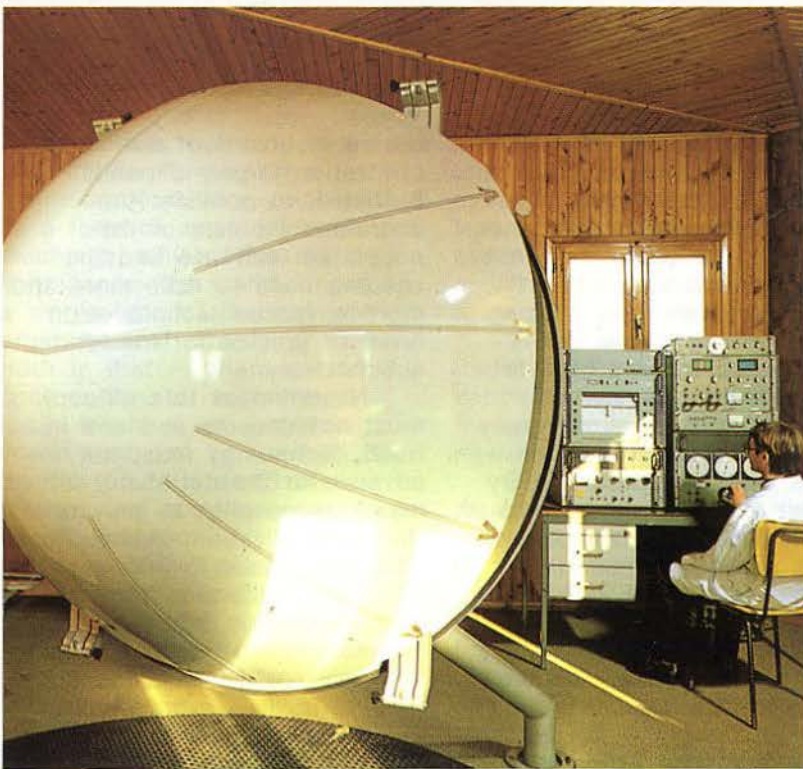
could hold back a given type of technology and promote the spreading of others, raising democracy to a higher level".

There is therefore the urgent need of an authentic cultural expansion capable of involving every cultural component, albeit taking into account the individual differences of culture, degree of information, intellectual education.

The highly gratifying goal is that of performing a convincing mediation between the scientific rationality and the irrepressible solicitations of the spirit, which are dormant at times, but always alive.

These are foreshadowers of wider themes which will necessarily have to be discussed and better defined in a future which is already starting now and is marked by the alarming questions on the quality of tomorrow's life and civilization.

The relationship of the individual with himself is placed within this complex picture, a



relationship that regards also the "military man".

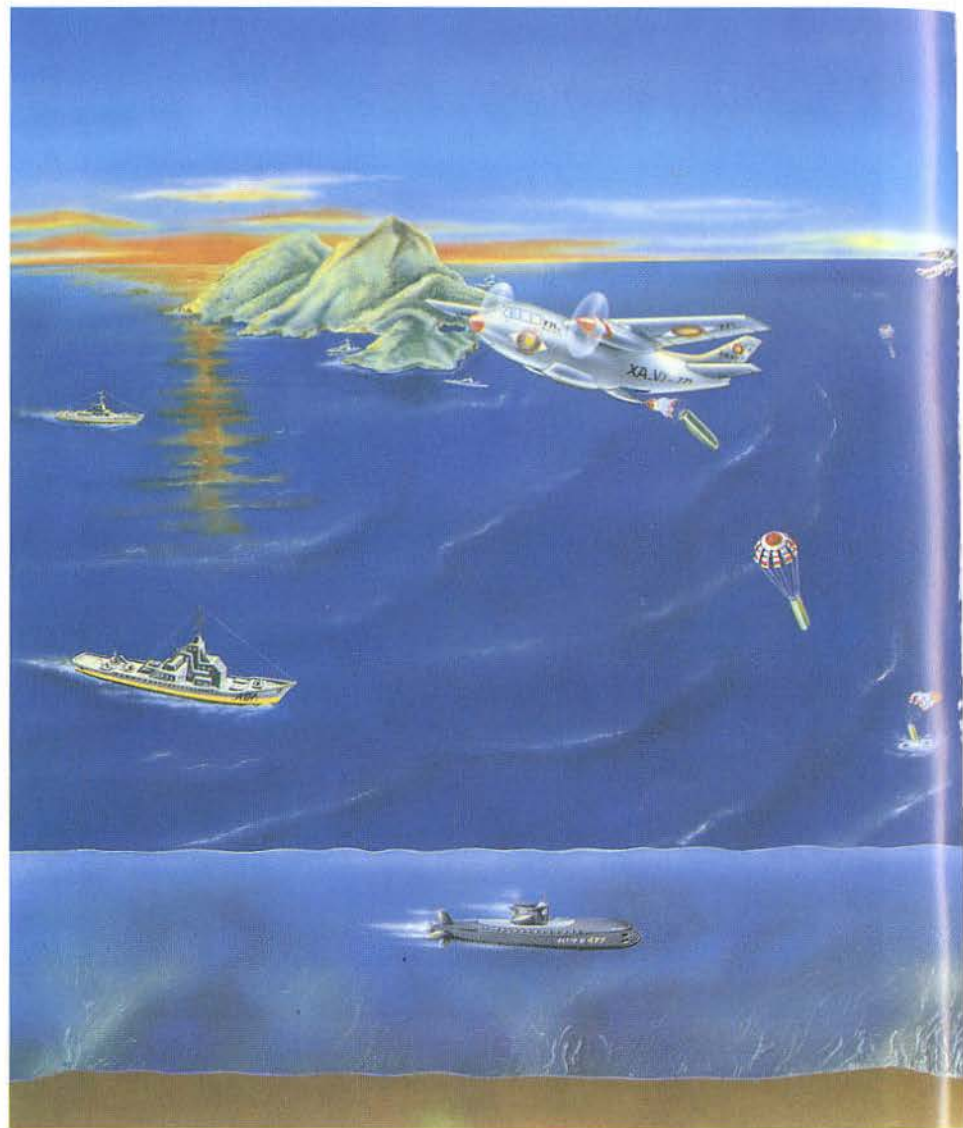
He too is assiduously contending with a technological development which is hastened by the Armed Forces' requirements and which, in its turn, influences the processes of adjustment or revision of the military structures and doctrines.

Here also — here above all, I would like to say — electronics has taken the lion's share, but also other branches of technology have played a rather important role, which has led to important advances in the sectors of metals, engines and explosives.

Turning our attention to electronics in general and on informatics in its multifarious applications, we observe that their use in the Armed Forces is widespread: in the weapon systems, from the elementary to the most sophisticated ones; in didactics and training, with increasing use of the so-called "simulators"; in the exercises for Cadres at various levels; with "wargames" supported by informatic systems capable of representing the developments of true-to-life situations and providing concrete elements for choices and decisions; in the management of command and control.

At present there are already numerous means, land-based, airborne or orbiting in space, in a position to observe, select and report in real time. There are moreover remotely controlled vehicles capable of flying over the objectives of the potential enemy — even the most secret and well concealed — in order to survey, determine, verify.

Looming at the horizon there are, moreover, the "Robots", no more confined to the world of science fiction. Many military means can be considered "Robots", remotely controlled as they are and equipped with a small electronic brain. It is easy to foretell their development and diffusion, since their autonomy allows them to carry out tasks



impossible for man, such as passing through areas contaminated by nuclear, chemical and biological agents, as well as the continued performance of activities, without rest and food, or long permanences in zones characterized by very high or very low temperatures.

This particular evolutionary trend is in keeping with the outlook of the modern military man, who is in constant pursuit of the efficiency of structures, means, organizations.

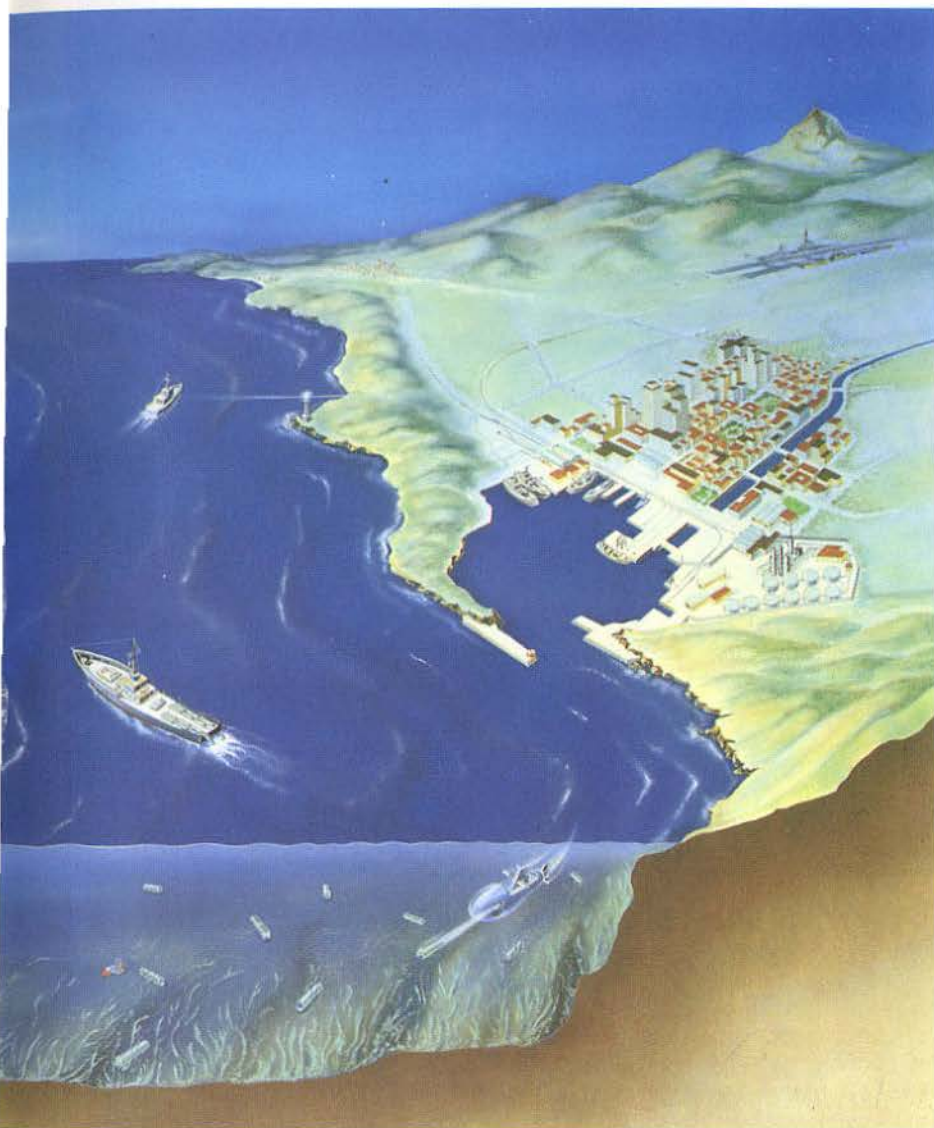
The main trend of our whole life system, of our civilization in this historical moment is undoubtedly directed towards "efficiency".

An efficiency — let us not deceive ourselves — on which

the very survival of our civilization largely depends. Suffice it to consider the enormous problem of the population increase and the ensuing need to have more and more advanced techniques in order to provide for mankind's subsistence.

Nevertheless this efficacy must not become and end in itself, technology must not advance to the detriment of man's personality, to prevent the materialization of the ghost of a man, slave to efficiency at all costs, subject to a myriad of automatisms, whose interconnection dissipates the will power of the individual and inhibits its free expression.

Recalling Konrad Lorenz in "The Decline of Man" one must



be conscious, before it is too late, of the dangers of a technocratic culture, conceived as a form of symbiosis with the machines, which tends to homogenize the world, imposing a single type of thought and organizational strategies. The truth is that — thanks to the contributions of technology — today we have an immense power that can be used to the benefit (or detriment?) of the present and coming generations.

The relation man/technology, nevertheless is not an easy one, especially during the initial stages, when the advent of the "new" upsets or changes established equilibriums.

We are just experiencing one of these stages: technology

puts at our disposal an impressive amount of static dynamic information, more or less useful, more or less essential.

It is for us to decide what to acquire and process.

Within this framework, the traditional concepts of surprise, concentration of effort and manoeuvre acquire completely new dimensions.

The "electronic war", all of its components included, is becoming a major protagonist of the armed conflict.

But this is the past.

The future looks particularly full of prospects, with the shift to space of the possible area of confrontation.

The U.S. "Strategic Defence Initiative" goes in this direction.

SDI envisages the development of a coordinate system of means and weapons, partly deployed on earth and partly orbiting in space, which should provide a "star shield" capable of filling with new contents the shaky concept of deterrence based exclusively on the fear of retaliation.

The aim of the initiative is to avoid a clash. If, nevertheless, this were to occur, we would see — as a mere hypothesis, of course — the transfer of combat to another dimension, with many protagonists (satellites, laser weapons, radars), controlled by extremely sophisticated computers.

This is the future that electronics might keep in store for us but, meanwhile, it is now very much present among us, especially in the complicated surveillance and warning structures which are already fully operational.

The awareness of immediate retaliation, made possible by the electronic devices, checks all the aggressive intentions and helps to ensure peace. Within this framework, and considering that the present situation requires that we should not overlook a reality based on delicate balances, for the keeping of which even the medium-sized powers perform a vital function, our Army faces the informatic and technological challenge.

A challenge which cannot, and must not, be ignored if one does not want to be excluded from a world that is marching forward and, above all, from the possibility to remain — as far as possible — arbiter of his fate.

Aware of this, the Armed Forces play their part with conviction and determination, establishing themselves as a key element on the national plane and propulsive element of a well-qualified participation in the wider context of international cooperation, especially within the Alliance.

Therefore the challenge must be met, in order to keep pace with the times and —



Telespazio Company for satellite telecommunications. Lario station.

from our part — in order to provide the military instrument with efficiency and credibility adequate to the foreseeable threat.

To prefigure the future is imperative for those who hold the responsibility of command and leadership.

The "technological revolution" is on its way and its effects are already felt. We must control it if do not want to be enslaved.

Thanks to electronics we are able to acquire in extremely short times a bulk of data and knowledge for the gathering of which our entire lifespan would not have sufficed.

Data and knowledge which can be connected, through the most varied formulas conceived by the human mind.

It could be the triumph of rationality in the strategic relationship, with the abolition of miscalculations and surprise.

If this were true — and I

hope it is — the triumph of technology would positively affect the pursuit of progress and peace.

But in order to obtain this, one must strive for a well-balanced blend between the great conquests of the humanist culture, which is certainly not old-fashioned, and the equally great conquests of scientific culture, which has been the driving force behind the material progress of our times.

From this point of view the man-subject reaffirms his innate function of motive hinge of the world-object, in a continuous renewal of the Kantian centrality. Nor should we forget that Schopenhauer defined

The awareness of immediate retaliation, made possible by the electronic devices, checks all the aggressive intentions and helps to ensure peace. Within this framework. Army faces the informatic and technological challenge.

existence as a will to live, i.e. a continuous tension of desires and élan, which is the mysterious mainspring of history. Our society of electronics and artificial satellites, which violates outer space and the abysses of the sea, which travels among the plants and boldly explores our galaxy, represents therefore the triumph of man, in forms unequalled in the past.

It is man who dominates, man who transforms, man who creates.

Homo sapiens, stirred by the epic contest with mystery, verifies his abilities and enhances them in the immense dimension of thought.

And indeed, in the near future, technology will be the immediate and distinctive instrument of this eternal reality, as precious support of the creative intellect, irreplaceable prerogative of mankind which, through it, perceives the breath of God.

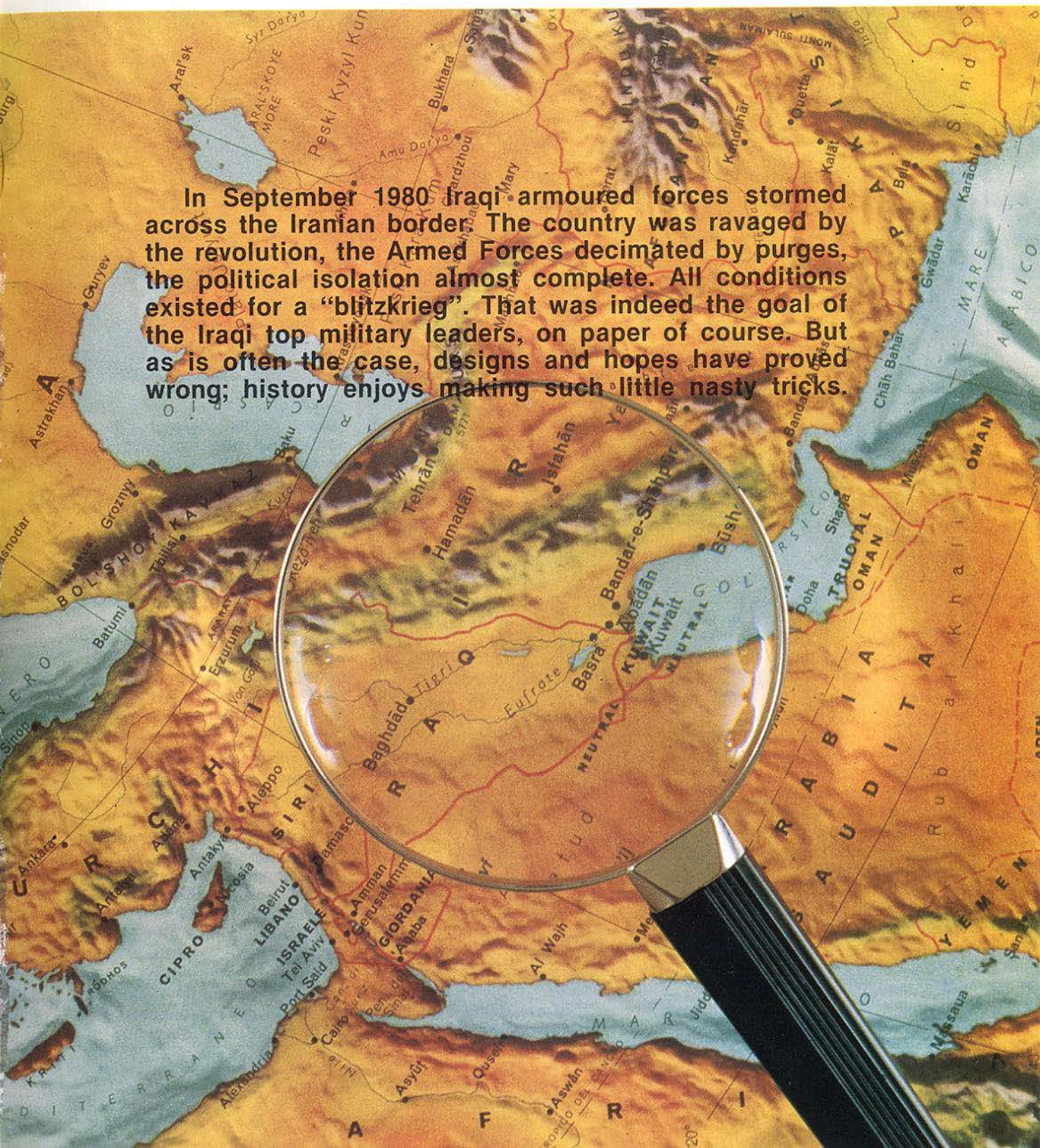
Ciro Di Martino



IRAN - IRAQ AN ANOMALOUS WAR



In September 1980 Iraqi armoured forces stormed across the Iranian border. The country was ravaged by the revolution, the Armed Forces decimated by purges, the political isolation almost complete. All conditions existed for a "blitzkrieg". That was indeed the goal of the Iraqi top military leaders, on paper of course. But as is often the case, designs and hopes have proved wrong; history enjoys making such little nasty tricks.





The great arteries of the western world: the Middle East oil pipelines. Almost 60% of the oil used by Western Europe comes from Mideastern countries, especially from those of the Persian Gulf.

Now grinding through its seventh year, a traditional anniversary for married life crises, the war has settled into the stalemate of a position war only made eventful by the occasional aftershocks of mini-offensives which spill as much blood as they sputter along inconclusively. Still — and here familiar and lasting memories come back — the war keeps going. But how did this hundredth demonstration of man's restlessness begin? A look, a bit curiously, at the setting, will provide us with a reasonably objective answer. We find ourselves on the eastern reliefs of the one-time happy region known in ancient times as the "fertile crescent" that stretched from Syria to Egypt and was florid with the lush greenery of the Hanging Gardens of Babylon, a blessing

from the floods of the Tigris and the Euphrates, a land of ancient civilizations and the arena of bitter fighting since early in its history. Looking back at its historical background, the source of the current state of affairs can be traced in the 1639 Treaty signed under the somewhat obtrusive aegis of Czarist Russia and Great Britain after the conquest of Baghdad by Sultan Murad IV: it sanctioned the political division between the Shiite Muslims and their Sunni kinsmen and doomed the Kurds, who lived farther north, to disperse between Turkey, Iraq and Iran, all of them difficult masters. Besides, under the treaty, the Shatt-el-Arab waterway — formed by the confluence of the Tigris and Euphrates and Iraq's only access to the open sea — and the cities of Najaf and Karbala, sacred to Shiite Iranians, remained in the area that lies in present-day Iraq. After a succession of troubled events the main protagonists of which were Russia, on the move

towards «warmer seas», and Great Britain, careful and solicitous guardian of the balance of power in the Middle East, the dawn of the 1900s saw the division of the region into two areas of influence: Russia in the north, Great Britain in the south. Let's leap now to 1925 when in Iran an enterprising Kossack officer named Reza Kahn brought to a successful end the four-year war against the local Qafar dynasty and took power under the title of Shah. At about the same time, the three western provinces of Mosul, Baghdad and Basra, former parts of the Ottoman Empire and under British mandate since World War I, gained formal independence in 1932 and formed the state of Iraq. Actual independence was achieved only in 1958 when, after the overthrow of the last King, Nuri Said, the country shook off the last remnants of British political control. There followed in Iraq a period of turbulent political struggle and coup attempts until the Baath Party

The Iran-Iraq Dispute

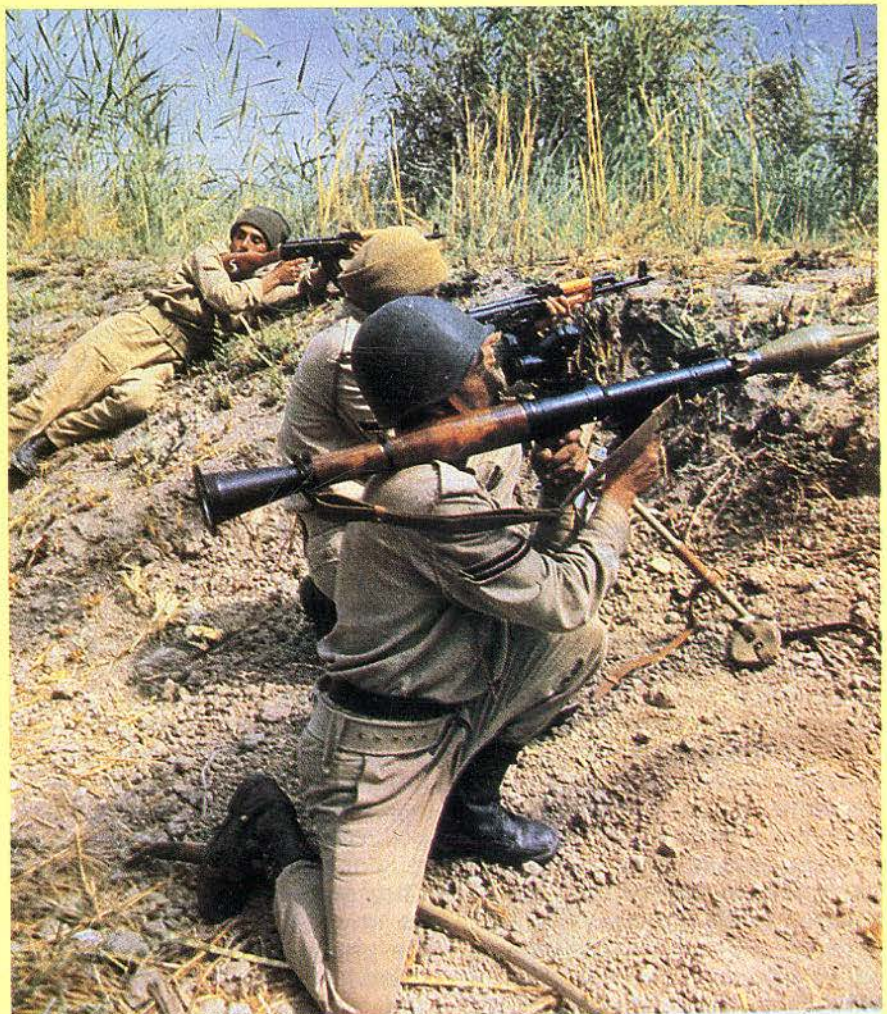
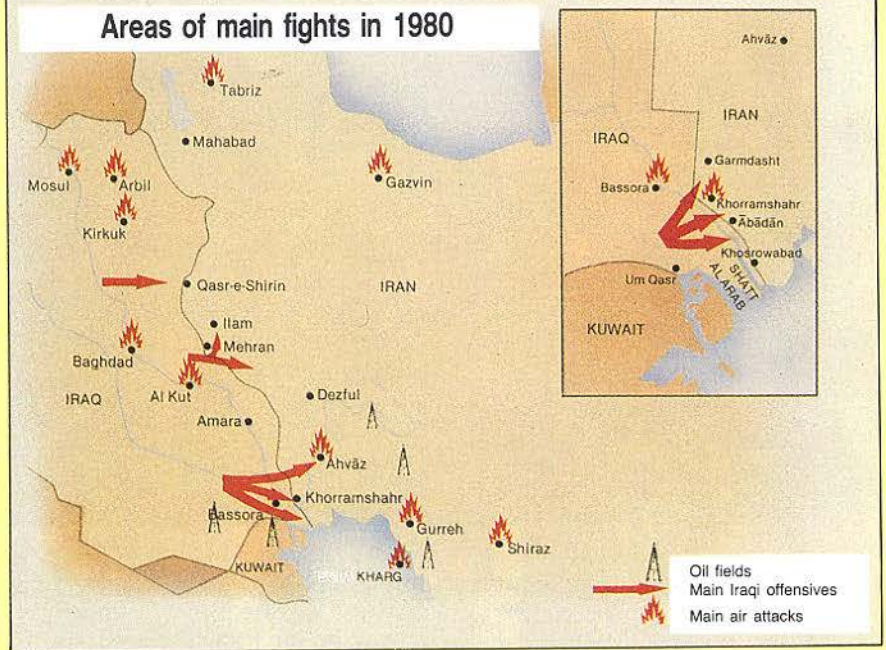
The origins of the dispute between Iran and Iraq date back to centuries ago, but the causes of the war of 1980 are much more recent. Modern Iran rose from the ashes of the Persian empire, while Iraq was part of the Turkish empire. Up to the 19th Century the border between the two countries was barely defined, but it was generally considered as running between the low Mesopotamian plain and the higher land of the Iranian plateau.

The Iraqi attack started in September 1980 with a raid across the border: a diverting action was carried out on the north, towards Mahabad, but only to immobilized the Iran forces in Kurdistan; in the central area, a mechanized Division took Qasr-i-Shirin, blocking the mountain passes; the main objective of this action appeared to be that of preventing the Iranians from counterattacking along the road to Baghdad. Further south, a Division of mountain infantry crossed the border near Mehran, occupying the territories which Iraq claimed as its own; a Brigade moved towards Ilam and another went south, in the direction of Dezful.

The Iraqis did not attempt to advance into the mountain area: they were most succesful in the south, where an armoured Division dashed east from the Amara-Basra road. The Iranians did not try to stop the Iraqi tanks in the middle of the desert, and the latter made rapid advances, approaching the important cities of Dezful, Ahwaz and Khorramshahr. These first land actions were supported by air raids on targets all over Iran, including Tehran Airport.

Probably Saddam Hussein anticipated that the raids would panic the civilians and the first successes of his troops would soon be followed by the fall of the Iranian government: no doubt he relied upon the establishment of a new regime, preferably a military one which, considering the limited Iraqi objectives, would contemplate the possibility of seeking peace. If this is the case, it was a very wrong reckoning.

Areas of main fights in 1980



Iraqi infantry, armed with rocket launchers, fighting on the border.

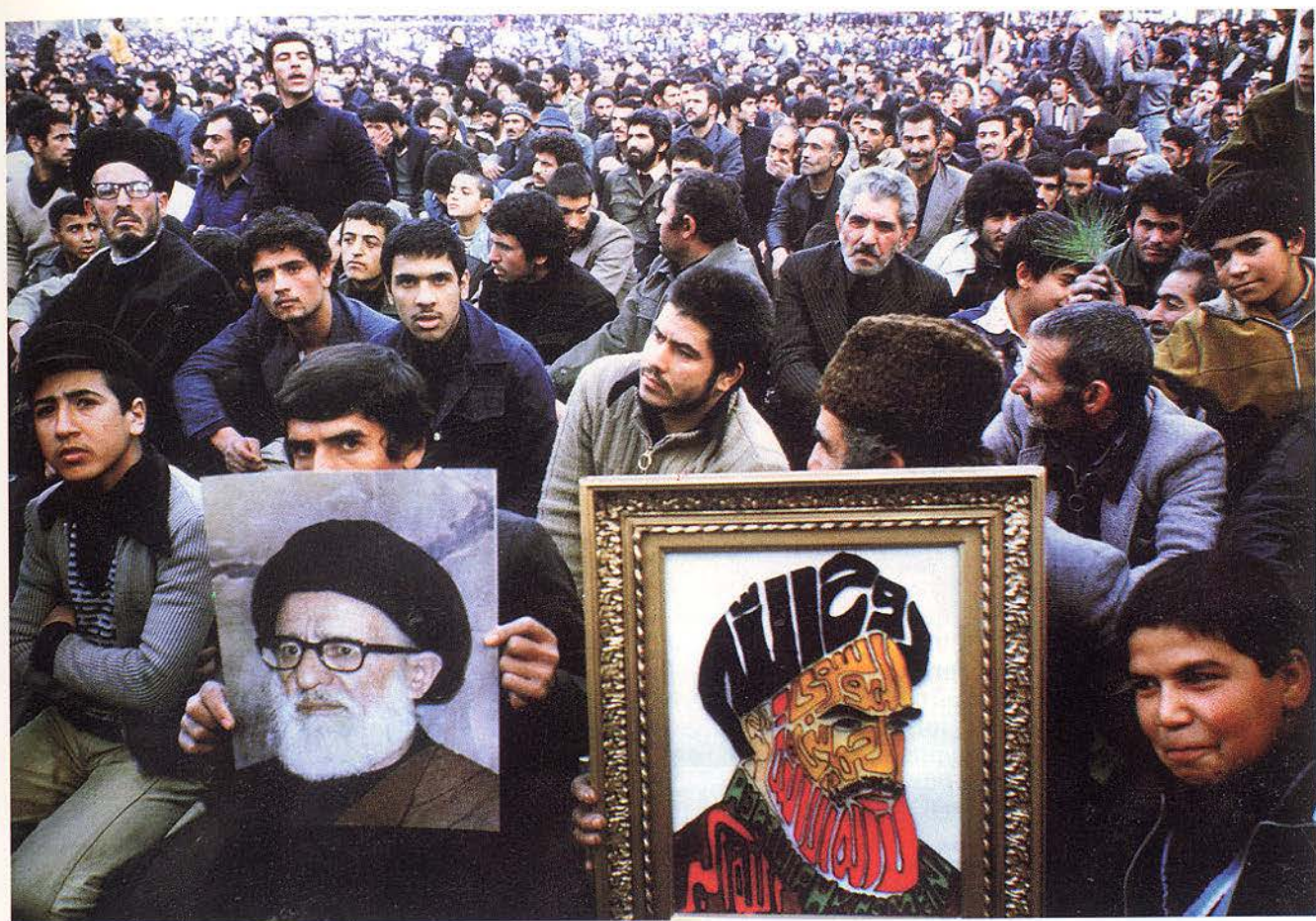


Iraqi troops celebrating their victory after a clash on the shore of Shatt-al-Arab.

consolidated its power in 1968. The Baath Party, which still rules the fate of Iraq, emerged in the early 1950s from a handful of intellectuals. Of vaguely socialist leanings, it represents a kind of pragmatic response in secular terms to the claims to modernization, yet in compliance with Muslim cultural and religious traditions. Switching again to Iran, the tri-lateral Russian, British and American occupation during World War II was followed by the coming to power of Shah Reza Pahlavi who devoted his efforts towards turning the country into a modern state through nationalization of the oil industry in 1951 and the elimination of Mossaddeh in 1953. In 1975, the endemic state of tension between Iraq and Iran seemed to soothe when the two countries agreed to a treaty under which the Shah would stop supporting the Kurds and the Iraqis would accept a new southern boundary which was shifted from the Iranian shore of the Shatt-el-Arab to the midline of the waterway. In February 1979, however, with Khomeini's coming to power, all that was called into question again. In substance, the conflict here is between two antithetic

conceptions. One, the integralist doctrine of the Shiite minority prevailing in Iran, calls for extreme strictness, rejects the western man-centered model and postpones the enjoyment of all pleasures to a well-devised afterworld, outside our dimension. Opposed to this conception is the Sunni orthodoxy prevailing in Iraq, which, more empirically, would have a plentiful taste of enjoyment in this world. What is more, Iraqis and Iranians differ in ethnic and historic background: Arabs the former, Persians the latter. In other words, the two populations although sharing the same great monotheist religion continue the kind of sectarian fighting that, although with a greater measure of tolerance and moderation, has accompanied the historical development of Christianity with obtuse and brutal persecutions, examples of which are still to be found in present-day Northern Ireland. However, religious differences between Sunnis and Shiites would have never flared into a war had not politics inserted itself into religious life. Iran in fact, after Khomeini's rise to power, based its revolution on the concept of the universality of God's will: it rejects all political frontiers and tries to return the Gulf countries to the faith of Islam,

away from heresy. It is, and the meaning is not new to us, a sort of messianic mandate to save the oppressed and, alas, not only those in the Islamic world. A rather disturbing outlook also for those, in more moderate climates, who persist in being free-thinkers. On the contrary, in Iraq, the ruling Baath Party has strengthened its secular stance by claiming that the State dominates over the mosque and offers a large measure of tolerance, coupled however to the exaltation of Arab nationalism and to a severe repression of any form of political dissent. They enjoy of course the full solidarity of the other Gulf countries: war waged by proxy has always been a widespread and rewarding habit. It will do no harm to recall, as a further element that adds to the already mentioned instability factors, the demographic asymmetry of the two countries: 41 million Persians as compared to 14 million Arabs. It is also worthwhile to recall that the Persian Gulf, the arena of the conflict, in addition to being a strategic link between Asia, Africa and the Middle East, exports 12 percent of the total oil supply to the western world and hold 56 percent of all known oil reserves. A few considerations on the natural environment will conclude this



Iranian prisoners.

outline of the picture. To the south, the Shatt-el-Arab area where the main military operations have taken place, is flat and marshy; the climate is continental; the torrid sun glares implacable most of the year on a landscape of mosquito-infested swamps. Farther north, the marshland gives way on both sides of the boundary line to barren and open flat ground which borders westwards on the very important Baghdad-Basra highway and is run across by parallel old caravan routes of key strategic importance. This flat land rises to the north giving way to a succession of higher and higher reliefs in an increasingly rugged and harsh environment. This is the land where the Kurdish minority lives and wages its centuries-old struggle for independence, in a constant neurosis of holocaust.

SITUATION AT THE OUTBREAK OF THE CONFLICT

We have already mentioned the remote causes of the conflict, that is to say those that have roots in the historic and politico/religious realities of the two warring nations. Now, a few considerations on the situation immediately before military operations started. Iraq is at the peak of its military power although this does not appear evident from the initial force balance. It holds in fact 190,000 men under arms; 2700 tanks; 900 artillery pieces and 340 aircraft. Corresponding figures for Iran are 285,000 men, 1735 tanks, 1000 artillery pieces and over 400 aircraft. Iraq is decidedly weaker in naval forces and with the added disadvantage of 10 miles of coastline bordering on the Persian Gulf, as compared to Iran's 1243 miles. One more factor of vulnerability is the sizable Shiite presence within the Iraqi armed forces at troop and lower ranks level, a

potential target of psychological pressure by the Iranians. Common features are the poor training level of conscripts, a leadership chosen more according to political merits than professional skills and the deficiencies in the command, control and logistics support system. The last named aspect in particular will prove to be the source of major problems and difficulties because of the very poor performance of weapon systems, especially under the hardest environmental conditions. At the outbreak of hostilities, however, Iraq appears to be in a decidedly favourable position. Iran, in fact, is in an almost total political isolation except for Syria and Libya which, however, limit their support largely to high-sounding demonstrations of solidarity. The Army, decimated by the purges which have involved over 10,000 officers, troubled by the rivalries with the regime's militiamen, the so-called Pasdaran, is neutralized and kept away from the capital for



Iraqi prisoners during Friday ritual prayers at the campus of Tehran University.

political reasons; the bulk of the armoured forces, reduced to 50 percent of their original efficiency, are deployed in the Kurds-inhabited area and along the border with the Soviet Union. The air force has been heavily affected by the total withholding of US aid and is mostly out of flying shape by lack of spare parts and avionics deficiencies. The same applies to the air-tactical control system. Only the Navy holds a distinct superiority over Iraq's own. Owing to the Shah's political stance, the equipment is almost totally western-made, American in particular, and this will create, at least in the early phases, serious supply problems. There are therefore legitimate grounds to believe that when Iraq decided to start the hostilities, it did so not so much because it overestimated its own capabilities and the

very critical deficiencies of the Iranian military instrument but because it underestimated the strong drive for unity of the Khomeini's ideology. Khomeini is indeed central to the Iranian situation. A diehard opponent of Saddam Hussein, who expelled him from Iraq in 1978 on the request of the Shah, Khomeini has strengthened with his personal hate the religious basis of his crusade against the depraving heresy spread by the Baath Party. For this reason, he has been secretly financing since 1980 the terrorist activities of the Iraqi Shiites. One potentially and extremely important factor that fuels the situation is his ability of leading the derelict Iranian masses to fanaticism, inducing them into total abnegation and sacrifice with the promise of rewards in the life to come. In sum, there are two revolutions ideologically opposed to each other: Khomeini's revolution finds in the war a sort of natural tool to win converts; the

Baathist revolution, which is aimed, in a more pragmatic fashion, at improving the standard of living on our meaner but "real" planet, views the war as a waste of resources and a gradual derailment from its most immediate goals. On the Iranian side, therefore, the prevalence of cultural and religious values in the parameters of evaluation, leads to the arrogant underestimation of the Iraqi military preparations. In fact, a military exploit in the presence of such a disproportion between the values that count is considered unthinkable. Conversely, on the Iraqi side, there is the cherished illusion of being able to attack a country on the verge of collapse and whose military apparatus is ruined beyond recovery. This could have been true indeed, if only the attacked had been Iran and not Khomeini's revolution. When a revolution is attacked, a radical review of the parameters to be

used in the calculations of the force balance is necessary. Which Iraq, to its bad luck, failed to do.

THE MILITARY OPERATIONS

Military operations throughout these seven years of war have been covered widely and in detail by a host of reporters and analysts, even if with the passage of time they have received increasingly little attention by the mass media. More than war events, attention has been focussed on the possible political and economic implications. This is only to be expected when an event, bloody as it may be, becomes the order of the day and a matter of routine for the press. Therefore, leaving details aside, I will confine myself to analyzing the conflict as a whole, stressing only those aspects that lend themselves to generalization and may serve as lessons. I have divided military operations into **four phases**. For the record, the war is now grinding through the fourth.

In the **first phase** the Iraqi forces hold the initiative. It lasts from September to November 1980 — a little more than two months — which makes one catch on quickly about the effectiveness of the Iraqi strategic concept. Iraqi armoured forces blitz across the central and southern portions of the border. During the first fifteen days, after routing the scanty garrison forces, the Iraqis seize firm control of the Shatt-el-Arab and reach the Khorram-Shahr-Ahwaz line. On the central border, with the occupation of Mehran-Qasr-i-Shirin, the Iraqis take control of the road network west of the Zagros mountains, from where the Iranian could threaten Baghdad. By this time, about 10,700 km of Iranian territory have been occupied. And now history repeats itself. Instead of capitalizing on the successful outcome of his offensive in depth to hit the oil installations and gain total control of the

Gulf's northern front, Saddam stops the advance and announces his willingness to negotiate. This is the wrongest move in an already inconspicuous military campaign and, although the offensive is fruitlessly resumed in October, it undermines Iraqi morale whilst galvanizing the Iranians. The Iranian defence, in fact, mostly entrusted to the Guards of the Revolution, the already mentioned Pasdaran, had been initially overwhelmed because the Iranians were poorly equipped and trained, and lacked professionalism at military commanders' level. A military force in these conditions is of no avail when it has to face mobile and fully mechanized forces operating on a terrain that favours vehicular trafficability. But now, thanks to the un hoped-for respite, to the more time made so available, to the marshlands that pose a major obstacle to enemy operations, and to the possibility of moving troops into defensive positions in built-up areas, the force balance changes. The war of manoeuvre gives way to the war of position. And to the stalemate.

The **second phase**, also called the "stalemate phase" lasts from November 1980 to September 1981. It is uneventful history. The conflict which has been characterized since the start by being fragmentary in nature, becomes bittier. It is just during this phase that Iraq's rigid centralized structure reveals its weaknesses, in that it leaves no room to initiative and only allows for a conventional and foreseeable conduct. In addition, the fear of a defeat, albeit local, recommends caution. The overwhelming air power is used in a sporadic and disjointed manner. The momentum is lost also in this sector. On the Iranian side, instead, unpredictability and local initiative — prompted not so much by a conscious tactics but by the calling to sacrifice in the awareness that they are fighting a holy war — produce

the first positive results. Defence becomes static on attained positions. Meanwhile, time helps Iran which has started to mobilize its huge manpower reserves. The Pasdaran begin to learn better their military lesson at various levels, though with much bloodshed. Great emphasis is also being given to the build up and psychological recovery of the regular army, with the aim of remedying the errors of the revolution to the extent possible. Special attention is devoted to the psychological aspect. Propaganda is obsessively setting a high price on sacrifice. An entire population undergoes a collective conditioning. Both sides begin to feel heavily the effects of logistic shortages. But while Iraq is being supported directly by Jordan and indirectly by all other Gulf countries in the form of financial aid, Iran is compelled to resort to all covert and overt means to get such essential supplies as ammunition, weapons, equipment and spare parts. The great powers officially hew to a policy of equidistance. Israel, which is only too eager to see the two rivals wear down each other's resistance, draws equipment from its own large arsenal and from the spoils of war to fuel the conflict indirectly and evenhandedly, albeit with some tilting towards Iran.

During the **third phase** which lasts from September 1981 to May 1982, the Iranians take again the initiative. The Iraqis, reckoning that time works against them, try several preemptive attacks, but to no avail. The Iranians fight back and counterattack by resorting to the successive waves technique, a tactics which is not unknown to us. Iran's human reservoir seems to be inexhaustible. The Iraqis cannot afford too much bloodletting and thus, on the pretext of Lebanon's invasion by Israel, announce they will withdraw within ten days back to the international boundary and that



An Iraqi anti-aircraft battery armed with Soviet-made 14.5mm ZPU-4 four-barrel guns.

methods, strengthens as a result of a surge of exasperated nationalism that stems from the awareness that Iraqi soil is occupied by the traditional Persian enemy. National loyalty has thus prevailed over ideology. This is a point not to be forgotten. A penetration, even not much in depth, through the central border, would allow the Iranians to press on directly to Baghdad or, at least, to divert from the south the by now scarce Iraqi reserves; but this proves impossible, because the environment there favours the one who is superior in armoured forces. Not to speak of the northern front where any operational development is closely linked, as already said, to the Kurdish presence. Here, Iraq, although it has played its cards well and is holding good bridgeheads, has no chance to develop successful operations given the ease with which the few narrow roads at the bottom of the valleys could be blocked.

they are prepared to start peace negotiations. But Khomeini turns a deaf ear to the proposal. He demands Saddam's head, 150 billion dollars in compensation and the repatriation of the 100,000 Shiites expelled from southern Iraq before the outbreak of hostilities. Obviously, Saddam refuses. He has only one head and a large family to support.

The **fourth phase** starts in May 1982 and has continued to the present day. It is marked by Iranian offensives into Iraqi territory and by the starting of the oil tanker war and is accompanied by increased involvement of civilian targets. The conflict has put down stout roots and has gradually escalated to involve strategic objectives. It is during this phase that Iraq resorts to the use of chemical weapons, blister and nerve agents (Yprite and Tabun) and to the employment of its aviation in depth to strike political and economic objectives unscrupulously. Iran fights back as it can, with the few aircraft left and with surface-to-surface missiles. The possibility of international complications increases, and so does the involvement of the great powers as the guarantors of free traffic in the Persian Gulf. Protagonist

on the battlefield continues to be the Iranian army which stages several repeated offensives conducted without air support, little artillery and few tanks. The forces that sweep the Iraqi outposts are literally human waves. The losses are huge but especially in the south, where the terrain most impedes the manoeuvre of the Iraqi tanks, the Iranians succeed in solidifying their positions on Iraqi territory and thus in controlling access to the sea and threatening the town of Basra directly. Iraq reacts by calling general mobilisation and entrenching in an impressive system of fortifications, to protect Basra and the highway that links it to Baghdad. Across the central border, Iranian penetrations into Iraqi territory are limited. The terrain poses major obstacles to Iran's type of forces and tactics. Having failed so far all efforts towards a negotiated peace, attacks on both sides are increasingly aimed at destroying each other's strategic objectives, i.e. the economic resources. Even the attempt to rouse Iraq's Shiites against the central government fails. Paradoxically, the stability which Saddam Hussein had initially assured through repression and police

CONSIDERATIONS AND LESSONS

The Iran-Iraq war can be compared to other Third World conflicts such as the India-Pakistan war or the conflict in Chad, yet it presents some peculiar and anomalous features which do not seem to be quite consistent with the duration of the conflict. Although it has heavily damaged the economies of both countries, it has not involved a regular large-scale mobilization of the population nor industrial reconversion nor a transition to war economy nor cutting of foreign trade. In short, the conflict has not taken the character of an all-out war as would have been expected from its longevity. The use of poison gas, the air strikes on towns, on oil installations and merchant vessels, although they fit in a precise strategy, have retained the quality of episodic and

disjointed events which seem to be emblematic of the conflict. For Iran in particular, it is neither more nor less than a border war, far from the capital, where the exaltation of sacrifice has actually materialized into martyrdom, the essence of Shiite mysticism. In other words, everything in the war seems to attune with and reecho the violent deaths of Ali and Hussein, the founders of the Shiite family, and all of their followers. The commemoration of sacrifices and slaughters has always had a sinister appeal. Even to us, more disenchanted westerners. In addition, the war keeps the army busy, away from the capital and hence from all temptations. And that, too, sounds familiar to us. As to the war bill, the conflict is costing Iran decidedly less than a compromise peace would. In sum, this conflict can be defined undoubtedly dull on the tactical and strategical planes. In addition, the war has also provided ample room for both sides to test incompetence and mistakes. However, it has not been ungenerous on conclusions and lessons. The latter can be learnt also from negative experiences.

In particular:

- **Iraqi strategy**, static and flat manifestation of a strongly centralized power expressing itself through tactics which echo the traditional pounderousness of Soviet doctrine, has appeared to be conditioned by the intention to conduct operations limited in time and space. In sum, a war fought under the banner of stinginess. Therefore, great power and mobility have failed to be exploited in depth, as would have been essential. The forces have been deployed in dribs and drabs, the conduct of the war has been irresolute. What is worse, the enemy was allowed to get the clear perception of what was going on. The overwhelming air superiority has not been used. The reasons have been strategical as well as technical

Equipment	IRAQ		IRAN	
	1980	1985	1980	1985
Tanks	2750	2900	1735	1000
APCs	2500	3000	2250	1060
Artillery	800	3500	1000	1000
Aircraft	332	500	445	80
Helicopters	276	270	720	350

and tactical. There has been no possibility, in fact, to concentrate the air assets, because the forces are divided by Military Regions which employ them separately. Air cooperation is little known, implemented to a little extent and, in any case, occasionally and in a disorganized manner with virtually nonexistent air-tactical control. Fighter pilots, both by character and training are extremely averse to low-level attacks and appear to be more fit for random bombings and stand-by release on fixed targets or, if these are mobile, without previous identification. In fact, even air reconnaissance is carried out sporadically with no systematic plan to follow, as the episode of the USS Stark shows. In land operations, direct air support on both sides is largely entrusted to attack helicopters with pretty good results, especially on mountainous terrain (in the north) although at a high cost. More than 250 helicopters have been shot down by anti-aircraft man-portable weapons of both sides.

The Iraqi army has shown a greater propensity for a defensive posture which has enabled it to better exploit the by now improved fire support of its artillery. The iranians instead have displayed more imagination, initiative at lower levels, and determination. The technological gap has however remained wide. The poor mobility of the Iranian land forces and the lack of air support in fact compel them to use the telephone to inform on when and where they are going to launch an offensive, thus giving the enemy ample time to manoeuvre its reserves.

- As the Falklands war and the "Peace in Galilee" operation have shown, **infantry is the real and unique protagonist on the battlefield**, in environments where cross-country vehicular mobility is difficult and where initiative, imagination and determination are the most decisive elements. Not even a distinct advantage in weapons, tanks and technologies has permitted to prevail on well-entrenched infantry troops. Conversely, where the terrain favours vehicular trafficability, even vastly superior forces cannot prevail if their manoeuvrability is inadequate, if they are not protected and lack a sizable air and land fire support. In this conflict too, men have played again a decidedly great role. Men, in particular the Pasdaran soldiers, despite their inadequate training, their scarce equipment and the lack of logistic support, have been the real chief figures, first in the Iranian resistance and later in the resumption of the initiative. The Iraqi soldiers, but for their lack of professionalism in the offensive stage of the war, have revealed unexpected skills, an improved efficiency and a better drive when fighting in the defense of their country.

- **Logistics**, granted for the sake of argument that there are still some who doubt it, has confirmed its decisive importance, especially in long-lasting conflicts. In particular, the differentiation of weapon systems has proved to be as useful as the unpredictable environment demanded. In fact, weapon systems in service with western and eastern countries, although they are among the most advanced, have revealed



Soldiers of an Iranian élite corps on parade through the streets of Tehran, carrying pictures of Ayatollah Khomeini. In the war against Iraq, the enthusiasm of the men helped to overcome the shortage of spare parts for the equipment employed by the Iranian armed forces.

deficiencies and complementarity. This would not seem to be fully consistent with the concept of standardization at all costs. Incidentally, this conflict does not seem to bring strong arguments for the cause of some extremist peace groups which maintain that the only way to stop conflicts at their outbreak is to halt arms sales unilaterally. The Iran-Iraq war, with its incredible intrigues and underhand arms deals, shows that this is wishful thinking just as the Great Powers' belief that they can control local conflicts by such means. Indeed, you only need to have the money or, simply the credit, and the

weapons flow in from everywhere, even from your sworn enemy. Business is business. The table below shows the means available to both nations in 1980 and 1985.

Rigid **government control of a war**, with intertwined politico/ideological interferences also on the battlefield, inevitably results in lack of flexibility, delays in implementation and, generally, failure. This is all the more true in the case of manoeuvred operations with armoured and mechanized forces. Again, this is no news. The Six-Day war and the Yom Kippur war, where flexibility and initiative played a

major role, have already demonstrated the case in point.

- Preparation of the terrain by setting up **protective elements and barriers** enables to halt or at least to inflict unacceptable losses also to those who appear as unstoppable human waves. This kind of organization is far more effective against armoured/mechanized armies equipped with high technology means. Experience has shown that in the Shatt-el-Arab area equipment wears out and becomes inefficient far more quickly than men and that replenishment of equipment losses is slower and more difficult. This is no big news either and sounds as an encouraging lesson to those who are committed to defense and can rely on scarce resources to fulfil the task. This sounds familiar to us.

- To conclude, a final consideration on the difficulty, if not the impossibility, to end a conflict by conventional means when both sides, or even only one of them, belong to a **cultural and ideological world which escapes the fundamental rules of conventional conduct**. There is more than one case in point: the poor figure cut by the Multinational Force in Lebanon, the virtual failure of the "Peace in Galilee" operation, not to speak of the previous tragic occurrences in Algeria and Indochina and present-day events in Afghanistan. This explains some attitudes of the two Superpowers which often seem to be inconsistent with the established foreign policy lines, as they formally display confrontational positions, but converge on substance. The same can be said of the other

Conflict in the Gulf

In 1980 two Moslem nations went to war, throwing the Middle East into utter confusion

Iraq started the war in the Gulf with the objective of obtaining a limited military victory, which should cause discontent in Iran against the Khomeinist regime and lead to its replacement with a new government, willing to negotiate a reasonable settlement of the border dispute: the international prestige of Iraq as well as that of its leader, Saddam Hussein, would be enhanced and Iraq would become the dominant power in the Gulf, and possibly in the Arab world.

The tactics chosen for the achievement of this goal rested on a rapid advance of the land forces through the desert, in order to get hold of the disputed border area and threaten, but not attack, the main cities of Khuzistan; the enemy strongholds should then be overtaken and isolated. The Iraqis undoubtedly imagined that if the Iranian army were to face combat in the open, it would be too demoralized to put up an effective fight, and the raids on various targets all over Iran would cause panic among the civilian population.

But the Iraqis had underestimated their enemy: not only did the Iranian government survive, but was strengthened by the war. The Iraqis, though making territorial gains, never obtained decisive victories; the bulk of the Iranian army retreated undamaged to the eastern mountains, entrusting the task of apposing the enemy to resistance groups of the regular army and to the Guards of the Revolution. In October the Iraqis were in the suburbs of Dezful. Ahwaz and Khorramshahr, forced to face long and bloody fights to conquer the cities. At sea, patrol ships of both parties had clashed on September 19 and 20 in the waters of Shatt-al-Arab air raids were carried out against the Iranian base of Khosrowabad and the Iraqi base of Khawr Abd Allah. In any case the naval activity soon stopped, without none of the contenders obtaining the complete control of the Shatt. As a result, the war took on an uncommon character, with none of the two parties being engaged in a decisive



effort. The Iraqis confined themselves to long-distance bombing of Iranian towns, probably employing some of their Frog and Scud ground-to-ground missiles, and seemed in no hurry to fight inside the towns or even only to isolate them completely, with the result of causing considerable destructions in the towns and in the oil refineries of Abadan. The Iranians, for their part, made no attempt at launching a powerful counterattack; not even the air force made its presence felt on the battlefield and preferred to hit the airports or the other economically important installations, such as oil refineries and pumping plants.

Top.
Protest demonstration of invalids in Tehran.

Above.
Sit-in of Kurds in Iran.

Gulf countries which privately give money freely, but publicly display equidistant stances or even stand by the side of both, or swing between the one and the other.

CONCLUSIONS AND PROSPECTS

The Iran-Iraq war became unavoidable with Khomeini's coming to power and the eruption of all contradictions of a revolution which had brought the country on the verge of complete collapse in the social and economic sectors and to isolation in foreign policy, whilst fuelling a rising wave of Islamic fundamentalism which poses a potential and dangerous threat also outside national boundaries. An extremely awesome threat also to the USSR, due to the large and expanding Muslim presence there, and to Western countries where it materializes into terrorist activity. The conflict, started in a hesitating and disorganized manner, could neither be won by Iraq nor settled through a compromise peace. The war was virtually a big politico-strategical mistake. Paradoxically, far from bringing about one more oil crisis as feared by many, the conflict has helped keep oil prices down, due to the increasing need for financial resources by the warring nations as well as by their supporters. Supply in fact has far exceeded demand. It is estimated that to sustain its war effort Iraq has received over 35 billion dollars from the Gulf countries alone. This is an underestimate, for the above-mentioned reasons. In addition, the development of oil pipelines through reliable countries has been boosted. The two Superpowers have never found themselves in a real disagreement. Indeed, the opportunities for collaboration seem to prevail over the possibility of an open confrontation. As regards the possibility of indirect intervention from outside,

Afghanistan teaches: it is a tragic and updated reminder of how little could any conventional army do in a revolution-based scenario, Islamic or otherwise. It is to be stressed too the realignment of the Arab countries on positions where Iraq has come out of the Soviet sphere, Syria has become even more isolated and, currently, at loggerheads with Iran over the Lebanese issue, and, finally, the Gulf countries are much more worried about the spread of the Khomeini's epidemic than they are about Israel. This has enabled Egypt to recover the position of preeminence it held before the Camp David accords. Let's examine now the possible future prospects:

- **An Iraqi victory** is quite improbable, as the country lacks human resources, means and the political strength to prevail. Besides, it only strives towards preserving its regime and saving resources, because it has absolutely neither expansionist aims nor interests beyond the Shatt-el-Arab area. In other words, Iraq's aim in the war now is to economize, in the hope that external events may develop in its favour. Khomeini is not very young and is in rather precarious health.

- **An Iranian victory is also unlikely**, because its economic resources are even scantier and the country is still engrossed in coping with the strong internal opposition. Besides, its victory would not serve the interests of anybody. Extremely serious would be in fact the

repercussions on the Arab and Muslim world in general and on the control of an area which continues to be vital for European economy and could become shortly crucial also for the USSR, at least until the first decades of the next century.

- **A political solution.** More than being probable, it appears to be the only possible solution. Such an approach is however difficult as long as Khomeini lives and in any case will not be a cure-all for the situation. Whichever regime is going to rule the two countries, it will have in any case to deal with the domestic repercussions of this long war in a situation where the unifying factors, induced by the war itself, will have dissolved.

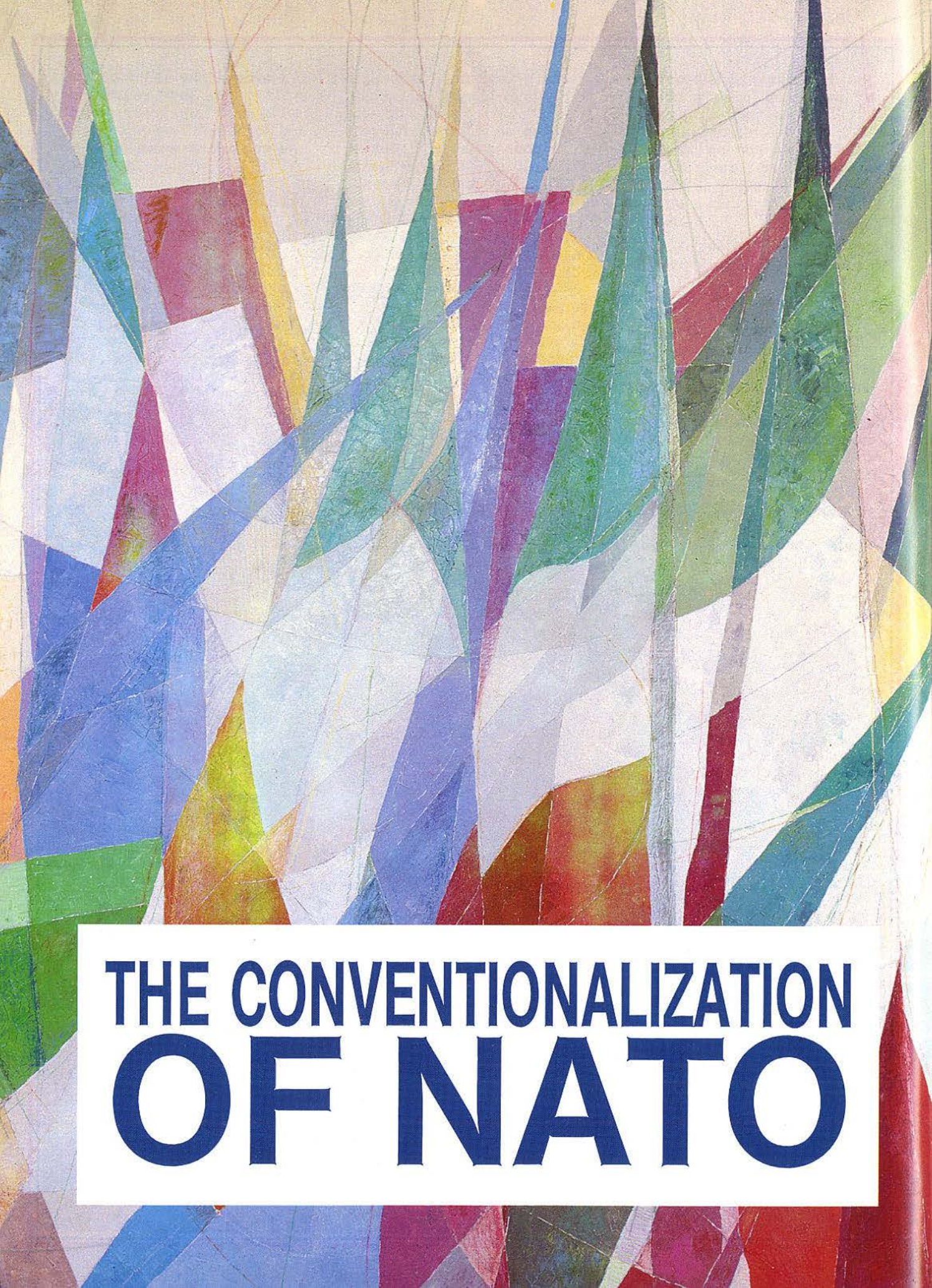
It must be concluded, as cynical as it may be, that it is in everybody's interest that the situation remains in the current stalemate, but for all the local risks this might imply. At any rate, it is for the common good that the two rivals come out of the war completely exhausted so that both of them will have to devote time, resources and energies to the reconstruction and recovery of their standards of life, so badly battered by the war. Something of a bloodletting, so to speak, a practice followed in times past, when the medical art was still underdeveloped, considered as the simplest and safer way to redress the balance in physiologically disorderly organisms.

Maj. Gen. Lucio Innecco

IRAN - IRAQ

AN ANOMALOUS WAR





THE CONVENTIONALIZATION OF NATO

Twenty years ago the NATO nations, except for France, approved a document linking the security of the Alliance to the doctrine of the so-called "flexible response". The key element of this doctrine was represented by the availability of nuclear weapons both to counter — to a gradually growing extent — a Soviet attack on Europe and to offset the evident superiority of the Warsaw Pact forces. As a result of this doctrine, NATO has virtually put aside the problem of its conventional forces, being certain that the threat of some nuclear warheads would deter a potential aggressor. This assumption was not wrong, but it was lacking in political insight since it entrusted the European security to the discretionary power of third parties, in this case the United States, thus making Europe a hostage of the Soviet — American relations. Therefore, one should not wonder if the European heads of government were abruptly brought back to reality by the Reykjavik summit of October 1986 between Reagan and Gorbachev, not so much because they had been substantially left out of a negotiation of which Europe was the subject, but for the consequences that a positive result of this meeting would have had on the defensive strategy of the Old Continent. In fact, after applauding for years the prospects of nuclear disarmament, when this was near at hand, as at Reykjavik, NATO European countries realized "officially" that their conventional forces were insufficient to counter a Warsaw Pact conventional attack.

The agreement in principle reached in Washington, last September, between the US and the USSR, on the double zero option — which decidedly relaunched the Reykjavik negotiations — arose the problem again and with greater emphasis, since the prospect of eliminating most nuclear warheads from Europe appears more realistic than in the past. But now there seems to be no doubts: the great nuclear disarmament, if any, will heavily involve NATO's conventional forces. Their role within the western strategy, which is essentially based on the US nuclear umbrella, has been debated for many years; however, if NATO is bound "to go conventional" it is necessary to evaluate to what extent, at what cost and with what prospects this is feasible, considering the existing conventional forces.

FROM "MASSIVE RETALIATION" TO "FLEXIBLE RESPONSE"

The issue of the amount of conventional forces necessary to counter the Warsaw Pact forces was first tackled by NATO about the middle of 1952, when the Korean War was still under way. At that time, it was estimated that the 25 western active divisions had to be augmented at least to 96 in two years and to be supported

by adequate air forces. The European governments considered the economic and political burden of such a commitment unacceptable and the "massive retaliation" strategy was the logic consequence of this attitude. In fact, this strategy was based on the assumption that NATO would need nuclear weapons not only as a deterrent, but also to reduce its requirement for significant conventional forces.

Therefore, since 1953 the deployment of tactical nuclear weapons in Europe and the importance attached to intercontinental nuclear weapons warranting an "extended deterrence" essentially reduced the role of the conventional forces which, for the first time, were considered as a pure and simple means to delay the attack, almost a tripwire to compel the attacker to pause and ponder before having recourse to nuclear weapons.

The admission of the Federal Republic of Germany as a member of NATO had a favourable impact on conventional forces. Actually, if a withdrawal action as far as the Rhine could be assumed before implementing "massive retaliation" when Germany was not a NATO country, her presence in the Alliance entailed the commitment to defend the German territory and therefore to ensure the forward defence as far to the east as possible. After all, "forward defence" was really the least NATO could do for its new ally in order to reduce the risk that the escalation from conventional to nuclear warfare would occur on the German territory. However, conventional forces continued to play a role less important than that of nuclear weapons.

Around 1957, after the launching of the Soviet Sputnik proved the vulnerability of the American territory, many Europeans started having doubts about the Americans' willingness to defend Europe risking a "massive retaliation" that would inevitably have involved their territory in a nuclear conflict. General Norstad, SACEUR at that time, requested that Thor and Jupiter missiles be deployed also on the Continent, both to strengthen his Country's credibility and to respond to the deployment of similar medium-range ballistic missiles on the part of the Soviet Union. But, as is known, doubts on the US willingness to defend Europe by nuclear weapons persisted, especially in France.

Starting from 1967, new steps had been taken to reaffirm the credibility of the American nuclear umbrella and, in particular, the Nuclear Planning Group was established to enable the Europeans to voice their opinion on questions associated with NATO's nuclear policy. However, the most important step was the adoption of the "flexible response" doctrine, which represented the rejection of "massive retaliation" and implied the availability of a wide range of nuclear and conventional weapons so as to allow a possible conflict

to escalate up to a level unacceptable to the enemy, thus achieving deterrence. And what is more important, the Americans had guaranteed their involvement in Europe since the initial phases of the escalation.

However, the "flexible response" doctrine did not solve the role of conventional and nuclear forces in the NATO strategy, a role that continues to be much debated among the Allies. Some countries stressed the need for a strong conventional component to guarantee their direct defence and to avoid an escalation which, although controlled, could entail the use of nuclear weapons on the territory of the Alliance. Others, instead, were convinced that, in the initial phase, "flexible response" could be probably controlled and limited to the low operational levels of the European theater but, in the long run, it would inevitably escalate to a strategic nuclear conflict, thus involving the United States in an all-out war. Both cases, however — avoiding the escalation or delaying it — clearly pointed to the need for strengthening the conventional forces.

This requirement became even more urgent when the Soviet Union achieved a substantial strategic nuclear parity with the United States, as recognized in the SALT process. In fact, by the middle of the 70s, the need to strengthen the conventional and theater nuclear legs of NATO's triad was widely discussed, since the strategic parity left no longer any margin of success to the strategic component. In this connection, the most significant step was the "Long Term Defence Programme", agreed by NATO Defence Ministers. This programme was mainly concerned with the capability of non-nuclear forces and, to this end, the Ministers decided to increase their national defence budget by 3% in real terms.

Again, the Europeans did not welcome this increase of conventional forces with enthusiasm. Their reaction was caused, in part, by financial reasons since conventional forces are more expensive than nuclear systems — especially if these systems are largely paid for by the American taxpayer — and, in part, by the fact that insufficient conventional forces play a major role to ensure the American nuclear umbrella. According to some Europeans, if their conventional forces were to become too strong the American deterrence would be no longer guaranteed, since the United States could be tempted to reduce its nuclear commitment and to wage only a conventional war in Europe, thus avoiding a nuclear escalation which, almost certainly, would involve its territory. But since the Europeans would in any case be "losers" in a conventional war, it is better for Europe to be sufficiently "weak" so that the Americans may clearly realize that they should use at once their nuclear weapons to defend her, thus deterring a possible aggressor from launching even a conventional attack.

HOW TO STRENGTHEN CONVENTIONAL DEFENCE AND TO WHAT EXTENT

Apart from this "Machiavellian" aspect of the issue, NATO Commands do not question at all the need for strengthening conventional forces. Perplexities, if any, are raised about how this process must be carried out and about the size of the required reorganization, which depends on elements difficult to assess. In fact, the early use of nuclear weapons by NATO is a function of the threat and the allied capability to counter it. But a detailed comparison between the forces of the two blocs would be difficult, due to the presence of many elements not easily quantifiable.

Geographical asymmetry is one of the best known and discussed elements; but also political symmetry is much debated: the apparent monolithic structure of the

East is set against some centrifugal tendencies of the Atlantic Alliance. The differences in weapon systems and training levels make a direct comparison on the basis of "weapon for weapon" quite uncertain.

Another element which cannot be quantified is the effectiveness of command and control in the various components of the military structure, an element that a "static" comparison of forces tends to underestimate. Furthermore, this type of comparison takes no account of the real combat power of the belligerent countries; actually, this power is now the Soviet's strong point, since they try to minimize the superiority of the Eastern forces, ascertained by NATO, comparing it to the higher economic and human resources of the West. Nor should one neglect moral and ideological factors, different doctrines, relations between combat units and supporting units, and so on.

In consideration of all these elements difficult to quantify, an assessment based on the number of active mobilizable divisions can be misleading but, so far, it is probably the only base for a comparison between the forces. Within the borders of Europe's Central Region, which is decisive for the outcome of a possible conflict, there are about 50 Warsaw Pact readily deployable divisions; 25 of them are stationed in East Germany and the others in Poland and Czechoslovakia. To counter these forces, NATO has deployed 25 divisions, or 32 if account is taken of the 1st French Army, the German territorial brigades and the Dutch and Belgian divisions stationed in their respective countries.

If the Warsaw Pact launched a surprise attack, the current operational forces ratio would probably enable the East to have an initial success, but this ratio would be insufficient to maintain the momentum to acquire, with conventional weapons, those targets which would make a European conflict cost-effective.

With mobilization and arrival of other forces, the balance improves rapidly in favour of the Warsaw Pact, which benefit from the shorter lines of communication between the Soviet Western Military Districts and Central Europe, as well as from the large numbers of Soviet divisions held in reserve. It is reckoned that the USSR would be capable of mobilizing from 85 to 115 divisions in 30 days. NATO could not keep this pace, and even after 8-14 days since mobilization its capability to fight a conventional war in Central Europe would be seriously jeopardized. During his mandate as SACEUR, Gen. Rogers clearly warned that given NATO's situation, he would have been compelled to request the initial release of nuclear weapons a few days after the outbreak of a conventional attack. The situation has not changed under his successor.

If, therefore, we want to discuss concretely the present state of western conventional forces, we must realize the fact that the nuclear threshold, in Central Europe and Italy alike, is not an opinion but, as things stand now, it is the inevitable outcome of a nuclear conflict. The flexibility of the "flexible response" doctrine runs the risk of being quite ungovernable on the conventional plane and, what is worse, it is the West that would have to resort to nuclear first use, and this may well happen on its own territory.

The simplest solution towards improvement of NATO conventional defence consists in increasing the numbers of readily deployable divisions and reducing mobilization timescales. Neither solution seems to be feasible for the time being. In fact, economic considerations aside, the current recruitment systems in the major European countries and the lower output of conscripts do not permit a sizeable increase of the forces available on the continent,



unless the military instrument and defensive arrangements are changed to meet peacetime requirements. In addition, whereas the Soviet forces are already either deployed "on the line", or very close to it, the American forces on which we should mostly rely to increase the present numbers of western divisions are not in Europe and there seems to be no intention of bringing them here.

A few years ago, the US Senate even considered the possibility of withdrawing part of the US forces stationed overseas. Senator Nunn, a leading proponent of these troop cuts, maintained that if the Allies really wanted a "nuclear tripwire" it was up to the Americans to identify where it had to be put and rearrange their commitment to European defence accordingly. Senator Nunn concluded that the Americans could provide the tripwire with less conventional forces than they have in NATO.

But, even admitting that the Americans are willing to increase their forces in Europe, it is by no means certain that all of the European countries would be pleased; actually, many allied nations do not seem to be eager to have more American units on their territories and, indeed, in some cases, the opposite is true.

Having abandoned the idea of increasing the numbers of divisions, NATO can enhance its conventional defence through two approaches. The first, the most effective and pragmatic, consists in the attainment of the goals NATO has set itself in the field of forces support by fully implementing the Long Term Defence Programme. The second approach concerns extensive use of the so-called "Emerging Technologies" which entail also the adoption of new operational concepts. In sum, we should improve our current efforts, indeed we should "do things better and differently".

The elimination of the major deficiencies in the field of logistics, already identified by NATO commands, would ensure an immediate and tangible improvement of the Alliance's conventional capabilities. Unfortunately, the implementation of the 1978 Long Term Defence Programme has not proceeded as scheduled, and progress in many sectors has been only marginal.

NATO estimates for the five-year period 1985-1990 called for a 7 percent annual increase in military expenditure. This, according to General Rogers, would give a reasonable chance to neutralize a conventional attack, but in May 1984 the Alliance agreed to an increase that amounted to less than half the above figure. As to the goals to be attained until 1990, emphasis has been given to the elimination of the most critical deficiencies identified in the conventional field, forces sustainability in particular. On the same occasion, Gen. Rogers declared: "Our lack of adequate sustainability, mainly ammunition, war reserve material to replace losses, self-propelled howitzers and trained

reserves will require us — if attacked conventionally — to escalate fairly quickly to first use of nuclear weapons. I mean in a matter of days, not weeks or months".

NATO guidelines call for 30-day stock levels, but NATO is still below this level especially in the Northern and Southern Regions. In fact, the stockpiling of large quantities of materials entails a cost which would make unaffordable the provision of the new equipment we need. In addition, it is not convenient to stockpile materials

that can become obsolete in a short time. This applies in particular to ammunition; given their cost, in fact, they would limit the acquisition of new equipment and, what's worse, they would be obsolete by the time the new equipment is acquired.

Finally, it is not to be forgotten that the 30-day level specified in the guidelines is only a planning tool and not an identifier of combat capability; in other words, they would not assure automatically a 30-day conventional defense.



THE IMPACT OF THE EMERGING TECHNOLOGIES

The second means for improving conventional defence is represented by the so-called Emerging Technologies. For instance, it is believed that, in the future, an advanced capability of data processing may permit a timely supplementing of information and a very remarkable improvement of battle management. Furthermore, it should be possible to acquire targets far beyond the Line of Contact and hit them with conventional ammunition whose accuracy would be increased as much as possible by sophisticated microelectronics, thus reducing, at the same time, the payload necessary to destroy the target. By exploiting the possibilities of miniaturization, either ballistic missiles or cruise missiles could launch numerous "smart" submunitions, capable of aiming themselves for a direct hit at isolated armoured targets spread on a large target-area.

With its "Assault Breaker" programme the United States envisages the use of sophisticated reconnaissance aircraft fitted with advanced surveillance equipment for the sighting of targets at long-range and the in-depth control of the enemy's follow-on forces. The information would be sent

to ground stations which would change it into real-time attack orders to surface-to-surface or air-to-ground missiles, armed with adequate terminally guided smart submunitions.

Ballistic missiles, armed with submunitions capable of seriously damaging runways and aircraft on the ground, would be used for counter-air operations, thus obliging the enemy to reduce the number of sorties. It would be better to use ballistic missiles rather than aircraft, since the actions conducted by the former are more likely to be timely as well as decisive; moreover, the risk of losses would be lower and penetration easier.

According to a study of the American Academy of Arts and Sciences, a mix of 1,000 short-range missile systems for first-echelon forces, 5,000 ballistic or cruise missiles armed with smart submunitions for follow-on forces and 9,000 ballistic missiles for counter-air operations would give NATO an adequate conventional defensive capability, without altering the current level of forces. The relevant cost would range between 10 and 30 billion dollars in the next ten years.

The problem of the emerging technologies does not concern so much the technologies themselves but rather their possible use. NATO has always relied on

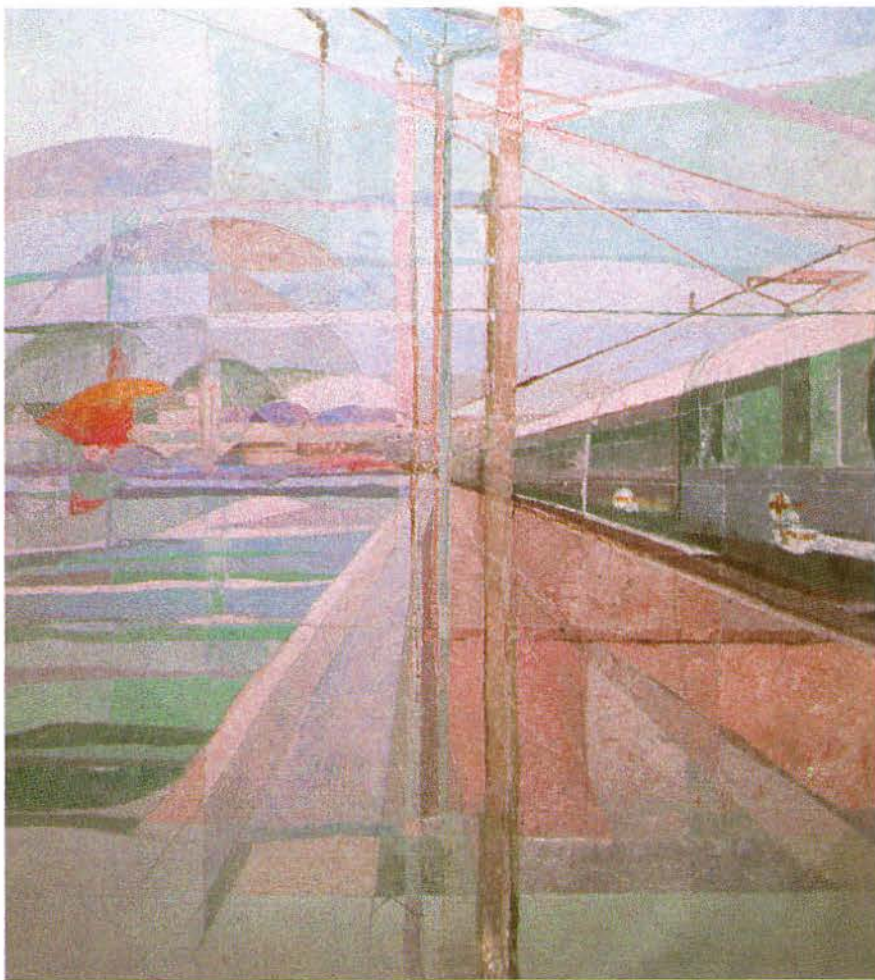
modern technologies to improve the efficiency and the effectiveness of its forces but future availabilities seem to offer new possibilities. So far, our targets have been first echelon forces and the interdiction of fixed targets; the current perspective is an effective attack on forces far beyond the line of contact. As is known, this has made it possible to develop a new operational concept for NATO's conventional forces, namely, the Follow-on Forces Attack.

The FOFA concept (Follow-On Forces Attack) envisages an attack on armoured forces located anywhere between 25 and 40 km behind the Line of Contact in order to disrupt and destroy Warsaw Pact reinforcements, namely those forces which are not involved in the initial attack but are going to reinforce or exploit the action subsequently. A massive attack on follow-on forces would represent an indirect support to the forward defense since, by reducing the number of oncoming attacking units, the defender can better manage the battle and, what is more important, defence becomes more credible.

However, several aspects of the FOFA concept are still controversial. The first is the impact of an extended battlefield on "crisis stability". If we want to take advantage of the vulnerability of in-depth targets, the attack order must be given in a short time, on the basis of technical-military assessments; delayed attacks on forces on the move and on airfields from which aircraft have already taken off could prove unprofitable. These orders, however, involve a geographical extension of the conflict, in practice, a substantial escalation whose dimensions could not be in line with the intentions of the political authorities responsible for crisis management. In short, there might be no time for well-considered decisions or for the implementation of procedures similar to those established for the use of nuclear weapons.

The use of conventionally armed missiles makes things even more difficult. When a missile is sighted, it is not possible to be sure what type of warhead it is carrying but, since the response must be decided immediately, once the West starts using traditionally nuclear delivery systems, there is no guarantee that the conflict does not instantly escalate to a nuclear conflict, even though both sides did not intend to do it.

Another aspect which should not be neglected is the question of possible counterattack operations. A battlefield extending deeply on the Eastern European territory could compel western land forces to conduct actions on the Warsaw Pact territory, especially if the losses suffered by the attacker had considerably limited its advance. But is it possible to assume that NATO may conduct operations beyond the Iron Curtain? Theoretically, no one prevents a politically defensive Alliance from having a militarily offensive strategy, and such a strategy might even be a very



good deterrent. But few allies are in favour of an assumption based on the availability of significant conventional "counterattacking" forces which would not differ at all from the "attacking" forces. Moreover, the thought of employing these forces on Warsaw Pact territory to exploit the advantage ensured by the emerging technologies, is considered by some member countries contrary to the provisions of the North Atlantic Treaty. And there are also some who believe that what is useful from a military viewpoint is not always right from a moral viewpoint.

Finally, it has been said that the FOFA concept presupposes an attack based on forces ranged in depth. However, recent analysis of the Soviet operational concepts do not exclude that the Warsaw Pact may aim at obtaining a success before NATO's mobilization. The Soviet "Operational Manoeuvre Groups" would be used to penetrate, rapidly and by surprise, into the Western structure, moving along several directions on a wide front. The final goal would be NATO's collapse through an action limited to the battlefield and aimed at eliminating in few days the opposing conventional forces by means of the attacking units only.

This change in the Soviet operational concepts, which are no longer based on a methodical and gradual action as in the seventies, would be confirmed by other changes in the equipment and the organization of the Soviet units in Eastern Europe and would also indicate that greater importance is attached to the forward forces to the detriment of the follow-on forces. If this assumption is true, the proposal to employ considerable NATO resources to hit mobile targets in depth would not be quite sensible, since the high standard of the forward forces would constitute a threat much greater than the lower standard of the large follow-on forces. Therefore, it would be better to make every effort to counter the forward forces rather than dissipate the efforts on various echelons.

It is thus evident that the use of the emerging technologies is still a controversial issue and the repercussions of the relevant options on the military doctrines must be carefully considered. But, while within the Alliance there is a sufficient agreement on the fact that the new technologies may play an important role to improve conventional forces, there are still perplexities on their cost: actually, few western countries seem willing to start advanced technological research programs without a clear knowledge of their possible applications. People argue that it is far from certain that what is technologically feasible can subsequently be turned into something operationally cost-effective; on the contrary, there is the danger of making available expensive potentialities which cannot be utilized as they should. Therefore, for the time being, it would be appropriate to focus on the "emerged"



technologies rather than on those which are now emerging.

To conclude, there is a general agreement on the need to reduce NATO's reliance on nuclear weapons but, in the near future, there seems to be no prospects for the improvement of its conventional capabilities. Last May, NATO Defence Ministers confirmed their commitment to increase their national defence budgets by 3% every year but, as is known, this commitment is always subject to contingent situations which might prevent it. Furthermore, a 3% annual increase of defense budgets does not mean at all that the conventional forces will be increased by 3% every year.

Therefore it is useless to place great hopes on the extent of a future conventional NATO strategy. Due to economic restrictions, only limited improvement programs for equipment and weapons, rather than major programs relevant to forces and structural changes, can be considered feasible and realistic. At best, in the future, conventional "survival" will be perhaps our maximum goal since the more ambitious aim, namely conventional "deterrence", shall have to be decidedly put aside. Nor could the situation change if the Americans brought about the threat, ventilated in some circles on the other side of the Atlantic, to reduce their forces in Europe: a trial of strength in this field would damage NATO and would reduce its politico-military credibility without any practical result.

On the other hand, it will not be possible to overcome the underlying economic difficulties until an agreement is reached on how many nuclear weapons must be replaced by conventional weapons, in other words, on what risk the allied nations are prepared to run within the framework of "flexible response". The nuclear threshold could be represented as a line on the

ground, from which it is impossible to recede or as an amount of losses beyond which the conventional conflict is no longer cost-effective. Unfortunately, the possibility of reaching an agreement on these subjects can be considered almost a desperate deed, since each member country has a different position on the matter.

Therefore, nuclear deterrence would still appear, in spite of everything, as the easiest means to avoid the question of how many nuclear weapons should be replaced by conventional weapons and how this process should be carried out. However, the Soviet-American negotiations currently held in Geneva are leading to an agreement which, once it is signed, will sanction the withdrawal from Europe of those nuclear weapons on which the deterrence of "flexible response" is mainly based. If this happens and the Europeans will not have a credible conventional deterrent, the risk that Europe may go back to a strategic situation similar to that of "massive retaliation" cannot be excluded.

It is a risk that we cannot run now, 40 years after the beginning of the "cold war" and considering the development of the existing nuclear weapons. Nor are we sure that the Americans are still willing to run such a risk: intolerance of the nuclear risk in Europe seems to grow on the other side of the Atlantic, together with the conviction that it is high time the Europeans made up their mind to strengthen the conventional defense of their countries, leaving to the Soviet Union the responsibility for nuclear escalation.

Therefore, not much time is left to avoid the danger that Western Europe might be denuclearized without having a sufficient conventional defence, thus leaving her exposed, if not to an attack, at least to the blackmail implicit in force. And if NATO cannot rely on an adequate conventional deterrent, there will be only one possible solution: to start negotiations for eliminating also the conventional threat. The forums concerned with forces and armaments reductions and control have long been active, but their work should proceed in line with the Geneva negotiations. Undoubtedly, the agreement on nuclear weapons is too important to be subordinated to a similar agreement on conventional weapons but, somehow, it is necessary to establish a linkage that will warrant Western security when, as is desirable, the Geneva negotiations are successfully concluded.

This linkage is not a mere utopia; conventional weapons, as noted before, are expensive and would be even more so in case of major technological innovations. In the future, as a result of these high costs, the USSR might have more difficulties to keep up the pace with the West and therefore it might be compelled to consider the reduction of forces as the only solution to its economic problems; as a matter of fact, a prosperous economy is essential to the Soviet Union which, otherwise, will never be able to prove the validity of its ideology.

Brig. Gen. Mario Sardo

MECHANIZED INFANTRY: FEATURES, ROLE, PROSPECTS



It is already some time that traditional infantry is being reevaluated as a highly efficient means of defensive combat also against armoured formations. Numerous solutions have been singled out going from highly economic formulas — referred to particular actions such as for example zone interdiction — to others designed chiefly to substitute the track with the wheel in "troop transport vehicles", not to talk of "high technology" assumptions which are in an advanced stage of experimentation in the United States.

This kind of interests, justified among other things by the understandable wish to emphasise the importance of man in respect to machines, may however risk dwindling the attention paid to mechanized infantry.

MICV and APC

What are the future features of this component of the Combat Units, so important for the primary engagement for which they are designed?

The elements involved are manifold, but among these particular attention must be paid to the **combat vehicle** (MICV) assigned to the units. In the wake of the German formula of the HS30 first and MARDER later, a certain model has been adopted almost everywhere: the United States BRADLEY, the British WARRIOR, the Soviet BMP, etc. Derivatives of the M113, VCC1 and VCC2, as a solution of transition for the VCC80, are available in Italy at present.

The tactic formula of these means is very close to that of a light tank, though it may face only similar vehicles as far as armament and protection are concerned.

The above formula is tightly bound to the **"mounted" combat principle** where the infantryman dismounts only in particular situations (obstacles, scarce visibility, etc.), while the main action is carried out by the weapons on the tank (machine gun, turret gun, antitank missiles, individual weapons used from appropriate close action loopholes).

Though widespread, **this solution has not always met with full approval**. It is believed, in particular, that the present infantry combat vehicle exposes the whole team it transports to the fire of the enemy tanks because it is far less armed and protected than the latter.

Hence two different trends.

On the one hand, the **establishment of the previous APC formula** (vehicle for the covered transport of the troop only), according to which, at the moment of the encounter, the infantryman must always dismount and must, while still on the tank, keep away from the enemy tank and antitank fire. This trend, mainly sustained by the well-known expert on armoured vehicles Ogorkiewitz, has given way to a revival of several kinds of wheeled armoured vehicles based on the Soviet model of the BTR.

On the other hand, there is a tendency to **give the infantryman the same**





The Soviet armoured combat vehicle BMP-1, in service with the infantry units equipped with APCs, is armed with a 73mm cannon, a launching ramp for AT-3 Sagger missiles and a 7.62 mm machine gun.

protection, if not higher, as that given to tanks, using the turretless hull of partially obsolete tanks and taking advantage of the lesser weight to strengthen the front armour plating. This however is limited to an Israeli project.

This solution, clearly one of transition and compromise due to the kind of vehicle adopted, brings us to further considerations.

The prevailing task of mechanized infantry must be that of facing an attack on grounds having a medium and good practicability, which the enemy will certainly favour, thanks to the very nature of its forces.

The above forces, even when made up of "motorized" units, have a very high number of tanks (an average of 20 tanks for each mechanized battalion equipped with 30 BMPs).

We must thus be able to oppose the tank threat in a widespread and far-reaching manner because tanks will always be integrated and included in great numbers in the attacking infantry formations.

For this purpose the use of antitank missiles installed — in the turret or in the open — on the single vehicles is not an

entirely satisfactory remedy.

Moreover, particularly as regards the domestic problem, it must be remembered that such arm systems are valid mainly on the great distances, while our defensive requirement — behind a narrow advanced line — concern flatlands with a very limited field of view. The missile must thus be launched from high positions (buildings, ramparts, rises, etc.), which allow to see further. In order to reach such positions, however, it is usually necessary to get off the vehicle, going back to the formula of dismounted combat for which the the APC may be sufficient.

In most cases, the MICV would thus be used as a covered transport vehicle and not as a combat vehicle.

It may however be too expensive to carry out the above task.

ANTITANK COMBAT

The problem of how to use infantry in the presence of a massive armoured threat on the part of the likely enemy comes to light again: **systematically dismount the infantryman or mounted combat? It is certainly convenient dismount on really**

strong positions, on grounds where tracked vehicles move with difficulty, in the mountains and near rivers and inhabited areas, or after defensive operations of some respite. In these cases defence may stiffen and may try to block the relatively slow advance of the attack on the front of its positions.

An infantry equipped with vehicles covered only as far as transport is concerned — whether they be tracked or wheeled — will certainly be able to operate efficiently according to the above standards.

Our terrain, however, has very different features, especially where it is more sensitive and threatened. As already mentioned, it is flat with small obstacles, easily practicable and marked by limited fields of view and fire.



The United States M113 "Bradley", armed with a stabilized 25mm gun, a 7.62mm coaxial machine gun, and a two-track TOW launcher. This vehicle has been designed for operations with Abrams tanks.

We shall thus have to face armoured formations which will be noticed at rather short distances in close up ranks, ready to overcome our positions vehemently. The attack will be supported by strong concentrations of artillery, capable of neutralizing anyone found uncovered or scarcely protected. This should be considered the recurrent situation of the dismounted units whom the rhythm and dynamics of the action will seldom allow to carry out efficient operations on the terrain.

With a view to the above, **it does not seem convenient to stiffen on prevaillingly static deployments**, because the scarce depth of the field of fire and the short time of exposure of the attacker greatly reduce the efficiency of the arrest fire.

It is generally considered **much more profitable to repeat brief and intense fire actions from a series of subsequent**

deployments (not necessarily far away from each other). The above actions should put onto the enemy armoured vehicles a gradual wearing rate and break down their thrust within a certain depth. This procedure, especially if carried out from the vehicles, keeps the defender away from most of the effects of the artillery fire, traditionally more efficient on "soft", static and more clearly defined objectives. (The terminal guide projectiles of the future will certainly be more lethal for armoured vehicles as well, but their sophistication and their cost might be too high compared to the relatively simple countermeasures which are already looming).

In such a dynamic defence all antitank weapons may be used. But on the short range **missiles are rather slow and inaccurate** while their already mentioned use from raised position, dismounting from the vehicles, exposes them to artillery fire and requires more time to remount, withdraw and deploy.

Moreover, **antitank rocket launchers** for close up action or **recoilless guns** involve a reduced cover for the riflemen, not only as regards artillery, but also as regards the automatic

weapons on the tanks, while the time needed to release after short distance encounters and to deploy (remount, movement of the vehicle, dismount and settlement on the new position) **may be too long compared to the pressing rhythm of the enemy advance**. This is not all, however, for the effect of the hollow charges is greatly reduced by the "active armours" already much used in the East.

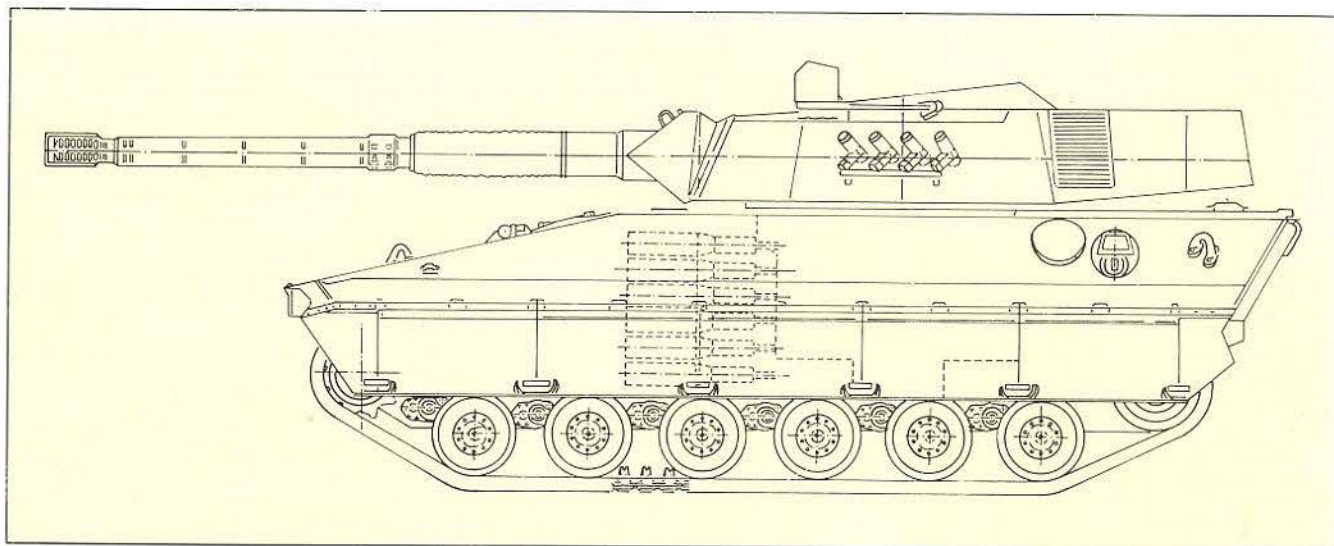
Missiles and rocket launchers are thus likely to lose much of their efficiency.

Hence the need of favouring the following types of weapons:

- mounted on the vehicles (maximum mobility);
- installed under armour (protection from enemy artillery and weapons aboard);
- accurate at minor distances too (reduced fields of view);
- with kinetic energy munition (efficient against all armours).

In summary: **high muzzle velocity guns mounted on armoured vehicles.**

However, due to the expense that this solution would involve, **a flat terrain defence carried out only with tanks is out of**



the question. It is true that other western-world armies consider the defensive employment of first echelon tank battalions, but on open and undulating ground with rather deep fields of fire.

Tanks are becoming too expensive and their sophistication, mainly designed to strike enemy vehicles at greater distances and while in movement, would be unsuitable in an environment such as ours where — useless to repeat — firing distances are reduced and the apportionment of the field of view requires a much greater density of deployment and thus a greater number of vehicles than elsewhere. The task of assuming defensive deployments, rather than proceeding to dynamic reactions, would furthermore make unnecessary the tank's capability of firing when moving.

It may instead be necessary **to equip the new generation MICV with a gun armed turret.** In fact, recent technical achievements allow to install highly efficient antitank guns on relatively light hulls with a limited use of space sufficient, however, to transport a certain number of riflemen in the vehicle itself. Of course, this considerable increase in firepower cannot be equalled by a similarly high protection which should be left exclusively

to field craft (with underground hull deployments which are not always possible of flat land).

As an alternative, we may think of vehicles not much different from the traditional self-propelled antitanks with a gun in the blockhouse having the main armament and the protection of tanks, but not necessarily, due to their specific defensive task, the turret and the complex fire control system.

Among the new features of interest, we may consider the availability of a simple automatic magazine with a "revolver cylinder" which can fire at least three or four times (and not more) in rapid sequence in order to face many enemy vehicles which may show up at the same time and at short range.

In such a situation **fire speed, more than great range accuracy, is of primary importance**, just as that of automatic individual weapons is in a close combat among infantrymen.

With another simple device, a second pilot could be placed on the "stern" of the vehicle. This would allow the rapid abandoning of a position without having to invert the vehicle and leaving the gun pointing at the enemy. Lastly, front engine, to increase protection even indirectly.

It is impossible to define

Project of a VVC 80 hull, armed with a 105mm gun and capable of carrying four riflemen.

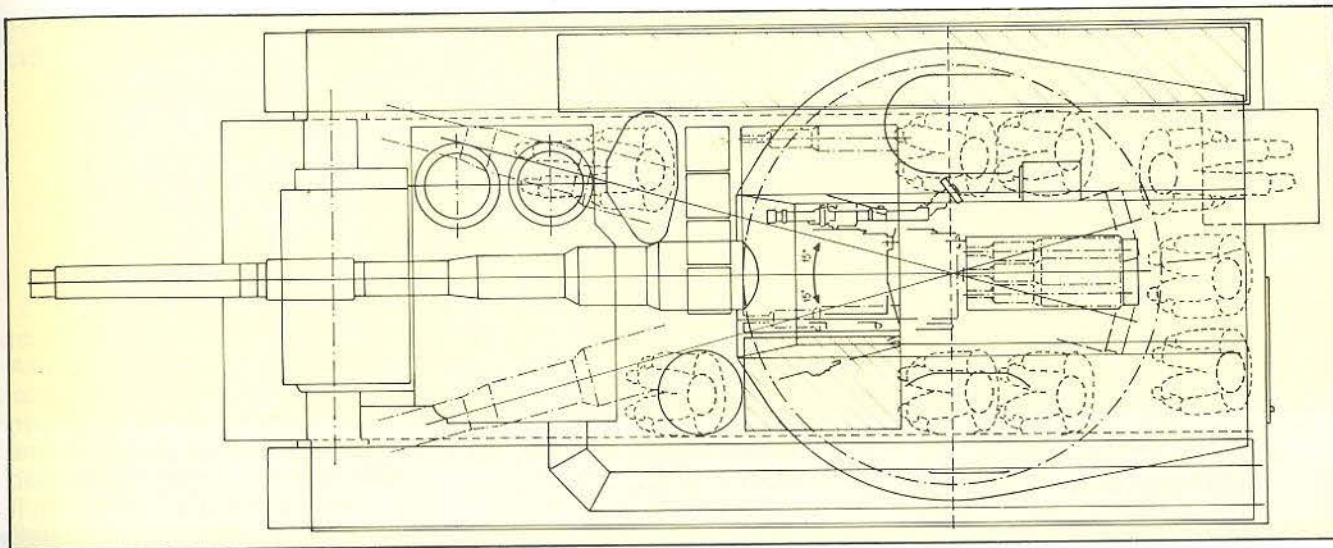
here up to what point the above requirements are consistent with each other; a more detailed technical survey could however consider this.

As regards the above, we should also consider the trend, as yet not altogether consolidated, of the German Federal Army, aiming at a vast scale acquisition of 120mm self-propelled antitank guns for the mechanized battalions.

INTEGRATION WITH THE RIFLEMEN

To acknowledge that the defence must have chiefly an antitank function and that for reasons of protection and mobility it must be carried out as far as possible from aboard the vehicles does not mean a return to the well-known "all tanks theory" of the 30s.

Armoured vehicles must be able to fit closely with nuclei of infantrymen, especially where the antitank self-defence must be strengthened, the terrain observed, dead areas surveyed, minor obstacles removed,



Project of an antitank armoured vehicle, armed with a 120mm gun and capable of carrying five riflemen. (In the title page of this article, an artist's view of the vehicle).

defence against dismounted infantry and mopping up carried out, etc.

Instead of the traditional binomial formula mechanized-tanks, a unifying solution, even if one of compromise, may be given by the above described MICV armed with a gun.

It would be better, however, if the self-propelled antitank gun which, as we have seen, could prove the most efficient means of defence, **was able to accomodate**, in the back of the vehicle, **an infantry team**, (we must once more refer to an Israeli solution — that of the MERKAVA tank which, however, has some limits).

Both assumptions bring us to formulas whose cost, putting aside all unnecessary sophistications, would not greatly exceed that of the most modern MICV already adopted by other allied armies. If we consider that a platoon of these vehicles could in fact accomplish the same task that must nowadays be carried out by a minor complex at tank platoon — mechanized platoon

level, we may understand the considerable economy resulting from such a solution.

This infantry, made "to measure" for our operational environment, having essentially antitank functions, **would nevertheless be fit to accomplish the tasks now assigned to the mechanized units**. Five-vehicle platoons would allow to dismount a number of men only a little lower than that of the present riflemen platoons, while mortars and a certain number of antitank missiles could always be placed within the support units in the battalion.

Without wanting to examine details of a regulating kind, we can state that this type of units **would cost about as much as the units equipped with MICV** of the last generation and could be the basic element of the defensive system, without however taking anything away from the tasks of the infantry on foot and from the essentially dynamic tasks of the tanks.

CONCLUSIONS

As usual, considerations on employment procedures, features of the vehicles and regulating structures are tightly connected and **it is impossible to think of new formulas without taking into account all the elements contributing to their elaboration.**

Moreover, production and financial programmes may often limit and prevail over considerations and evaluations which, though rational, may seem mere abstractions if not inserted within a more global context.

The need for more appropriate solutions at convenient costs is not only important in itself, but also for the specific strategic need of increasing the operational capacity of the conventional forces in the light of the proposed reduction of the nuclear component.

Certain non traditional aspects of the above could arouse **quite a few doubts in the soul, more than in the mind, of our mechanized infantrymen.**

Doubts and objections are welcome.

The important thing is to think of formulas which may better satisfy our needs, completing and integrating the existing models.

Maj. Gen. Mario Buscemi

HELICOPTERS IN COMBAT

THE EMPLOYMENT OF SCOUT AND ATTACK HELICOPTERS IN THE NATO AND
WARSAW PACT ARMIES



THE ITALIAN ARMY LIGHT AVIATION

The forthcoming assignment to the Italian Army Light Aviation (ALE) of attack and scout helicopters has necessitated the timely study and issue of normative and deployment regulations for the flight units (Battalions and Companies) which will be using this new type of aircraft:

Publication no. 6330 "L'Aviazione Leggera dell'Esercito" — (The Army Light Aviation) — 1985 Edition — which abrogates the preceding no. 5522 (no. 7200 in the doctrinal series) "L'Impiego dell'Aviazione Leggera dell'Esercito" (Employment of the Army Light Aviation), lays down the procedures for deploying the two helicopters on the future battlefield.

THE ATTACK HELICOPTER

The A-129 Mangusta attack helicopter will be used in a primarily antitank role, exploiting the eight TOW missiles with which it will be equipped. Its secondary role will be deployment against unprotected area or point targets, using air-ground rockets that will be mounted as an alternative to the missiles or in combination with them.

THE SCOUT HELICOPTER

The scout helicopter (planned to be an offshoot of the A-129) will have the primary task of providing intelligence support in reconnaissance activity as well as that of providing fire support against land and/or airborne targets (anti-helicopter).

Fire support will be provided for attack helicopters during their antitank action or during tactical heliborne operations performed by multi-role or medium-range transport helicopters.

Until this helicopter comes into service, the scout functions will be performed by the ERI-3/A with which the reconnaissance Companies are equipped. These aircraft are armed with a six-barrel 7.62 cal. NATO standard machine gun capable of firing 2000 to 4000 rounds per minute.

As a temporary measure, also a certain number of dedicated A-109s will be acquired for Forward Observation purposes. They will be armed with a belly machine gun and air-to-air missiles, in addition to sophisticated observation devices.

Until such time as the new attack and advanced observation helicopters are delivered to the ALE Battalions and Companies, it is interesting to see how and with what aircraft the antitank war will be fought "away from home".

A brief survey follows of the specific organization of the units equipped with scout and attack helicopters and the way

The A-129 can be armed with 8 TOW missiles.





they are deployed in the Army Aviations of the United States, West Germany, France, the UK and the Soviet Union.

THE US ARMY AVIATION

The present structure of the US Army Aviation, introduced in the early '80s and still being tested, is based essentially on the Army Aviation Brigade attached to the Infantry, Mechanized and Armoured Divisions, as well as to the Army Corps.

The peculiarity of this Major Unit is to be equipped not only with aircraft but also with ground scout and combat vehicles which allow it to be used operationally as either a reserve Air Brigade (the fourth Brigade of the Divisions) or as an independent unit capable of conducting a limited tactical action.

The composition of the Brigade varies depending on the type of Division or Army Corps involved (i.e. Light or Heavy).

The Aviation Brigade establishment is as follows:

- Airborne Cavalry Battalion: this unit comprises two Airborne Cavalry Companies with fifteen M 113 and forty

M2/3 Bradley, and two Companies of SH and AH;
 — Command Company and brigade headquarters (HHC);
 — two air support Companies (GS);
 — one or two Attack helicopter battalions (AHB), depending on the type of Division or Army Corps to which the Brigade belongs.

The AHB battalions are composed of:

- One Battalion HQ and HQ Company (HHC);
- Three Companies of

Attack Helicopters, each equipped with 4 Scout OH-58 C and 7 AH-1S COBRAS.

The aircraft used for scout and attack actions are, respectively:

- the OH58 C (SH) and the AH-1S (AH7 in the Light Division and Army Corps Brigades;
- the OH 58D (SH) and the AH-64 (AH) in the Heavy Division and Army Corps Brigades.

With its built-in mobility



Left, top.

The Augusta 109 Hirundo will be used as a starting point for the Forward Observation version (EOA). The photo shows one of the two A-109s evaluated by ALE for training and to verify the compatibility of the HUGHES M 65 system with the aircraft from which the A-129 was ultimately derived.

Left, bottom.

On the A-129 two rocket launchers with nineteen 81 mm rockets can be mounted instead of the 8 missiles.

Right, top.

The scout version of the basic A-129 helicopter. The probable armament will be a medium calibre (12.7 or 20mm) machine gun and air-to-air missiles.

Right, bottom.

Front view of the A-129 showing the wide range of installable weapons systems and proposing a possible installation of a Mast Mounted Sight on the main rotor's head.

and firepower the Battalion is the essential element (particularly during defensive operations) for containing and destroying enemy armour. In order to perform this task, the three AHB Companies are organized into three teams, each comprising:

- Commander (usually the company Commander), denoted as ABC (Air Battle Captain) on board a Scout OH-58 C or D;

- Heavy Section, composed of one OH-58 C or D and three AH-1S or AH-64;

- Light Section, composed of one OH-58 C or A and two AH-1S or AH-64.

The remaining aircraft of the Company are considered to be undergoing programmed maintenance or repairs of battle damage.

The efficient employment of the Teams is obviously dependent on there being a perfect understanding between the OH pilots and the AH pilots and on the use of suitable flight tactics to avoid being spotted by the enemy.

A general outline will now be given of the battle procedure followed by the team. The Battalion Commander, on the strength of the orders received, chooses a suitable Assembly Area where the three teams redeploy.

Once the helicopter crews have been briefed about the mission, the action of the three teams is organized according to the "one-third" rule. This rule provides for team rotation based on the following principle:

- Team 1 is in action in contact with the enemy;

- Team 2 is refuelling and rearming in the FARP zone;

- Team 3 is proceeding from the FARP zone to or from the line of contact.

This action procedure (denoted in Italian doctrine as "by waves") allows continuous pressure to be applied on the enemy by observing his movements and keeping him under constant fire. At the same time, the crews can refuel, rearm and get a break

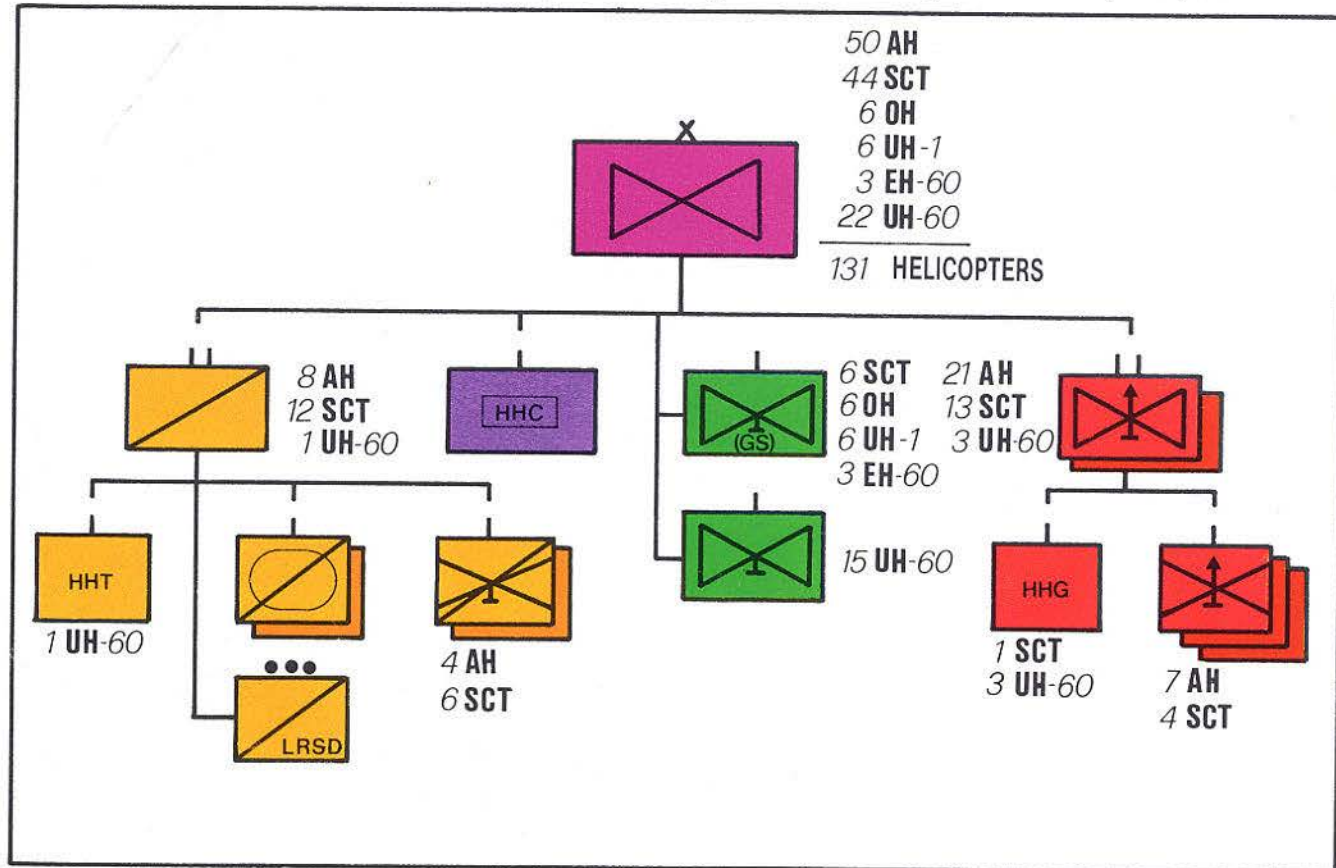
from combat stress.

There are two further Battalion tactics:

- *maximum destruction*, involving simultaneous action by the three Teams in short but intense actions in which all available firepower must be concentrated to destroy a threat;

- *phased attack*, in which two teams are in contact with the enemy and the third is refuelling/rearming. This method is used for the purpose of slowing down what is expected to be a prolonged infiltration.

Coming back to the Battalion, as soon as team 1 receives its orders, it proceeds to a Holding Area selected on ground about 5-8 Km from the FEBA. As soon as the latter area is reached the AH remain on hold while the ABC and the two Scouts move forward to reconnoitre suitable Battle Positions. After reconnaissance has been carried out, while the ABC remains in the area to coordinate the action of the ground artillery and, in



conjunction with the FAC, that of the Close Air Support (CAS), the two Scouts withdraw, join up with the AH and guide them back to the Battle Position, and afterwards cover their flanks during the fire combat.

When Team 1 reaches a low fuel and/or ammunition level, team 2 is brought up and briefed about the situation in order to take over and proceed with the action.

This, in outline, is the way the scout/anti-tank units are employed in the US Army Aviation, which has led the way in the use of helicopters in battle (particular in an antitank role). We shall now see to what extent the other western organizations follow this model.

THE ARMY AVIATION OF THE FEDERAL REPUBLIC OF GERMANY (HEERESFLIEGER)

In the West German Heeresflieger, the antitank component is made up of Regiments belonging to the Army Aviation Brigades included in the Army Corps.

In peacetime, the Regiment has an established strength of 56 PAH-1 (Panzerabwcherhubschrauber), the military version of the Boelkov-105, armed with six HOT semiautomatic guided antitank missiles (of Franco-German construction) with an effective range of 4000 metres.

Within the regiment, together with other logistic units, is the antitank Battalion

Left.

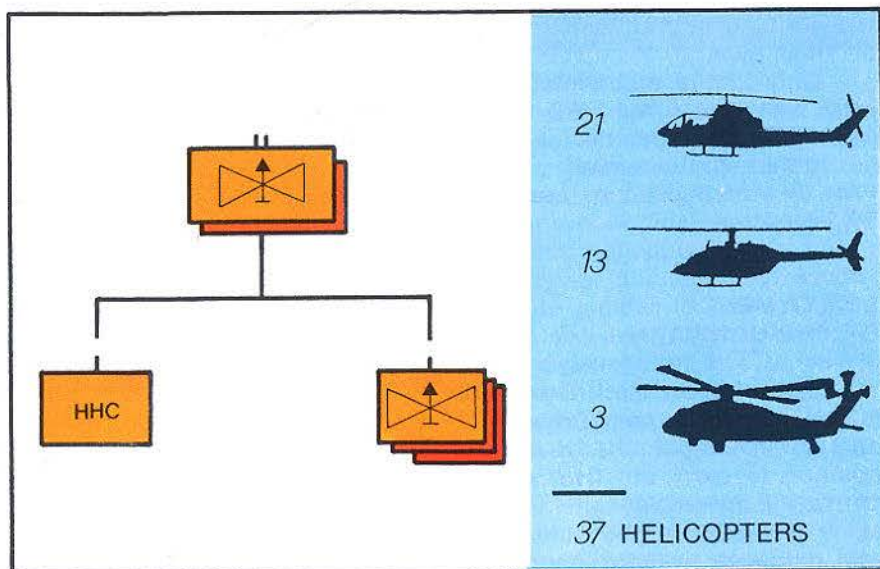
The Army Aviation Brigade is equipped with a total of 131 helicopters, which give it a formidable mobility and firepower.

Right, top.

The AH-64 APACHE is the most modern and technologically up-to-date helicopter in the West. Its armament and survivability characteristics make it a formidable weapon in the hands of the ground force commanders.

Right.

The Attack Helicopter Battalion is equipped with 37 aircraft.



(Abteilung) composed of two Companies (Staffeln). Each Staffel is further subdivided into four Platoons (Schwarme), each of which is equipped with seven PAH-1 helicopters. The Schwarm is commanded by a senior Captain or Major.

In the West German Army tactical doctrine, the fundamental operational role of the antitank Regiment is to contain the enemy armour advancing from the East. The helicopter's role is thus highly emphasized, although it is not deployed in isolation but in full integration with the other ground forces, particularly tanks, artillery and anti-aircraft units.

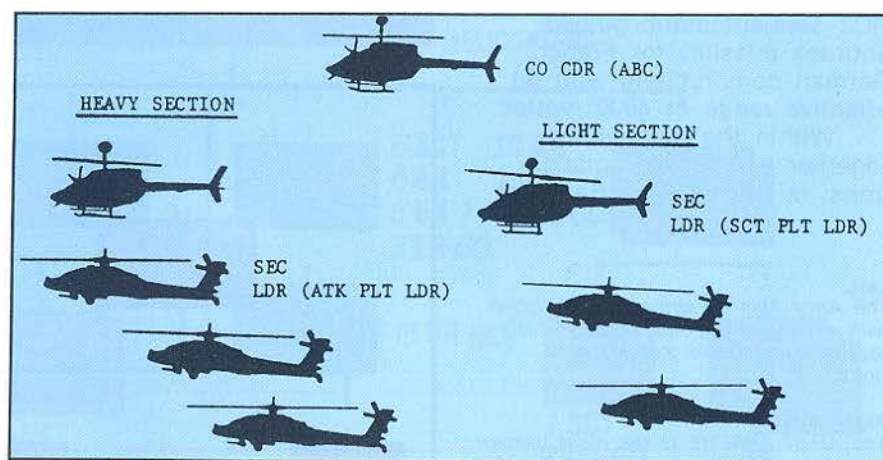
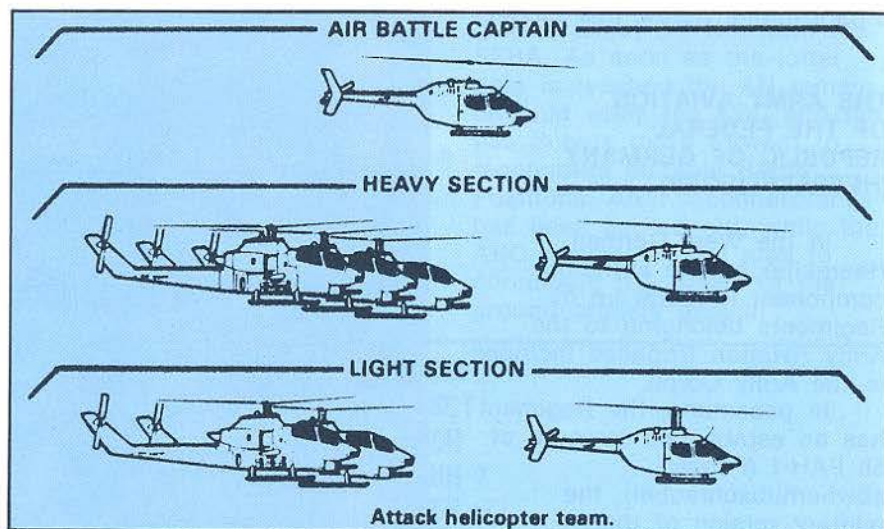
Unlike the US Army Aviation, which has worked out a valid system of tactics for all the theatres in which the US Army could be called upon to operate, the Heeresflieger will be operating 'on its home ground'. Consequently, the Schwarme crews are perfectly well acquainted with the terrain on which they will have to withstand the attacking massed armour.

The PAH-1 pilots know the area assigned to them like the palm of their hands as they have trained and carried out exercises there. They are therefore quite familiar with the approach corridors, assembly areas, attack positions and fire positions. There is thus no need for Scout helicopters and the antitank aircraft can operate on their own.

Only at the regimental HQ level are there 5 light BO-105 M reconnaissance and liaison helicopters (i.e. unarmed PAH-1s) which are not used for SH operations.

DEPLOYMENT OF THE SCHWARM

Operationally each Schwarm is assigned to a tank Brigade and is expected to be in a position to carry out five sorties per day (only in daylight hours, since it has no night launching and guidance system), each of



Top.
The AH-1S COBRA is historically the first attack helicopter. With its combination of TOW missiles, 70mm rockets and three-barrel 20mm cannon, it can still play a valid antitank role on the battlefield.

Center.
Team composed of three OH-58-Cs and five AH-1S COBRAs.

Bottom.
Team composed of three OH-58 Ds and five AH-64 APACHES.



Top

The OH-58D in the most advanced version of Scout, equipped with the MMS system for all-weather surveillance of the battlefield.

Bottom.

The OH-58 C KIOWA is still widely used as a scout helicopter by the Army Aviation.

(composed of the remaining helicopters) is refuelling and rearming at the FARP.

Basically, except for the absence of the Scouts, the German deployment tactics differ little from those of the US.

THE FUTURE PAH-2

The need for the Heer to have an antitank helicopter immediately available in the '80s led to an aircraft being adopted that was not entirely

suitable for the purpose. To make good this deficiency and have a 'dedicated' aircraft, joint Franco-German studies are in progress to design a new antitank helicopter — the PA-2.

This helicopter, the underlying philosophy of which is quite similar to that of the A-129, will be armed with eight second-generation HOT missiles, as well as air-to-air missiles for defence against other helicopters or low-performance aircraft.

This joint project, known as the Eurocopter programme, has been making slow progress for

which of an hour and a half's duration on the average.

The Schwarm normally operates in two Sections (Rotten) so that while one Rotte of 3 or 4 helicopters is being used in combat, the other

a number of years, owing to continual industrial and design problems. While the Germans view it as an all-weather antitank aircraft (like the US Army AH-64), the French would like it to be more of a general attack helicopter. The result of this difference of opinion is constant disputes.

THE AVIATION LEGERE DE L'ARMEE DE TERRE FRANCAISE (ALAT)

The French ALAT has much, if not more, experience than the US Army Aviation of using helicopters in combat. In fact, it was the first organization to employ helicopters against tanks using the first generation SS 10 and SS 11 antitank missiles.

Under existing ALAT organization, antitank operations are left to the RHC (Régiment d'Hélicoptères de Combat), attached to the Army Corps.

The combat units included in this regiment are:

- two Flights (Escadrilles) of light helicopters (HL), each made up of 10 aircraft;
- two Flights of manoeuvre helicopters (HM), each made up of 10 aircraft;
- three flights of attack helicopters (HA), each with 10 aircraft.

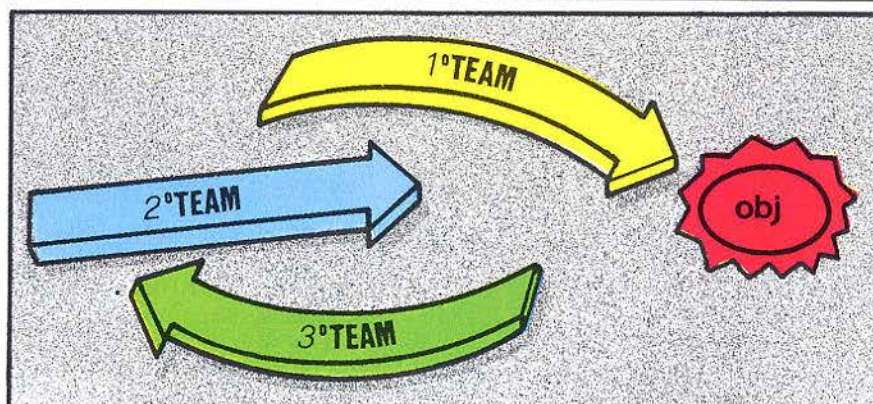
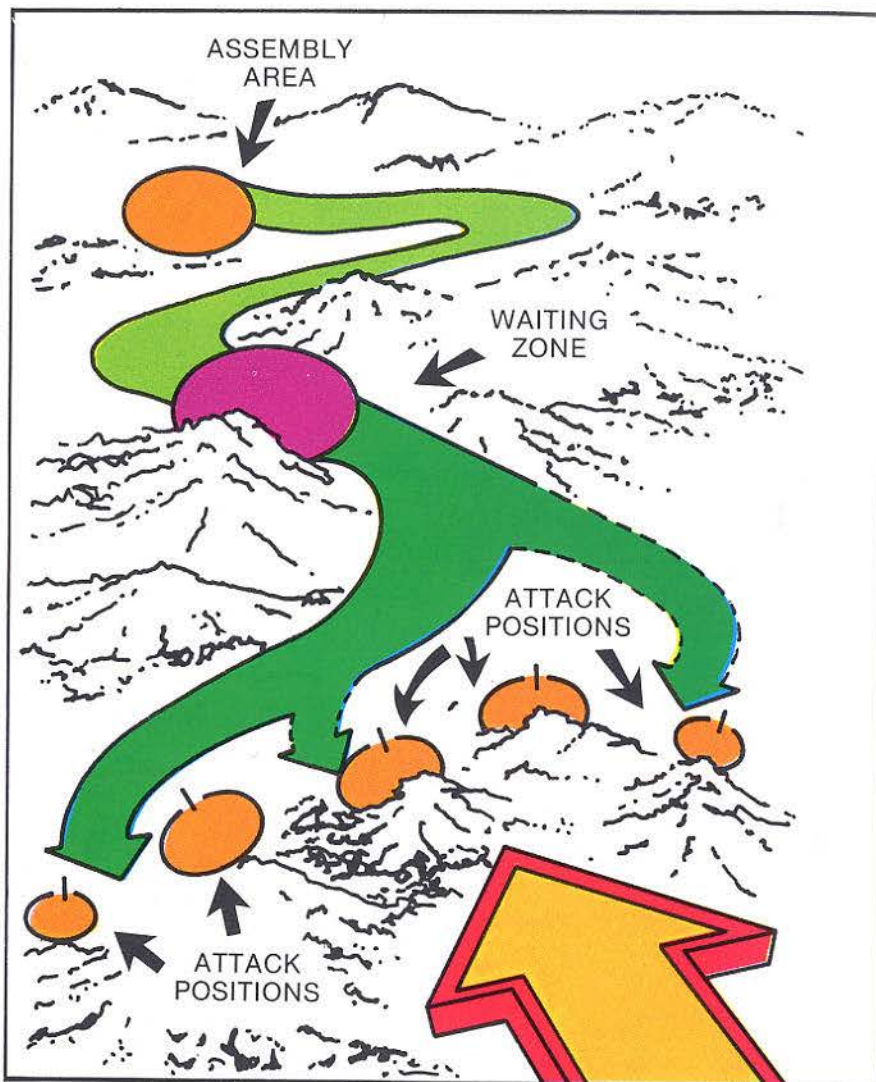
The light HL helicopters are used for scouting purposes and are of the type Aérospatiale 330 and 341 Gazelle, armed with a 20mm cannon.

The HA antitank (or rather, "attack") helicopter is the Aérospatiale 341 and 342 M Gazelle and is armed with four HOT antitank missiles.

The HM manoeuvre helicopters are Aérospatiale 330 PUMA, which can transport an infantry antitank squad armed with MILAN antitank missiles.

TACTICS EMPLOYED BY THE ESCADRILLES

The innovation introduced by the Armée de Terre with respect to the US Army and the



German Heer entails the antitank action performed by the flying units being carried out not only by the attack helicopters but also being coordinated with and supplemented by that of the ground antitank weapons (MILAN missiles) used by infantry squads helitransported by HM.

In actual operations, the Escadrilles tactical units are divided into patrols (Patrouilles), usually comprising three aircraft each.

The resulting composite group of HL, HA and HM is commanded by the leader of the HL Flight.

The HL will carry out scouting and air cover

Left, top.

Layout on the ground of the action of the three teams: the average distance between the Assembly Area and the line of contact with the enemy can be taken as about 30 Km.

Left, bottom.

Rotation pattern of the three battalion teams in action.

Right, top.

The PAH-1 of the West German Boelkov armed with six HOT antitank missiles.

Right, bottom.

A perfect knowledge of the terrain of operations and the use of appropriate flight tactics lie at the basis of the procedures followed by the PAH-1 crews.

operations for the HA and HM which will employ their missiles on a front of 10-15 Km, depending on the enemy strength.

THE FUTURE HAC AND HAP HELICOPTERS

Like the Heersflieger, also the need felt by ALAT for an antitank helicopter in the short term led to an existing aircraft designed for other purposes being adapted for the job. As a result, together with its German counterpart, it has begun work on constructing a 'dedicated' helicopter which will give both Army Aviations true antitank capability in the '90s.

The French are planning to build two versions of the new Eurocopter: one for reconnaissance and one with antitank capability.

The first, known as HAP (Helicoptère d'Appui et Protection) will be equipped with MMS for battleground observation and with a 30mm belly cannon. The second, known as HAC (Helicoptère d'Appui Antichar), will be armed with eight 3rd generation HOT antitank missiles, like the German PAH-2.

THE UK ARMY AIR CORPS

The Army Air Corps (AAC) of the United Kingdom has antitank helicopter units both in the





Left, top.

Mockup of the future antitank helicopter of the Heeresflieger. The influence of the Italian Mangusta is quite apparent. Its armament and observation equipment enable it to fight at night in poor visibility conditions.

Left, bottom.

The Aerospatiale Sa 316 C ALOUETTE III was the very first operational helicopter to be used in an antitank role.

Right, top.

The Franco-German consortium EUROCOPTER is to build the HAP (support and protection) helicopter and the HAC (antitank support) helicopter for ALAT.

Right, bottom.

The Aérospatiale 330 GAZELLE has a light helicopter (HL) role. Its 20 mm cannon makes it suitable for protecting HA formations against other helicopters.

BAOR (British Army of the Rhine) in West Germany, and in Britain itself (United Kingdom Land Forces).

In the BAOR, the spearhead of the British land forces, the AAC combat component is organized into Regiments, which are part of the Division of the Expeditionary Corps.

Each Regiment, with its minor support units, is organized into:

- a 12-helicopter Recce Squadron;
- two 12-helicopter Attack Squadrons.

A similar organization is used in the UKLF Regiments deployed in Britain, although the attack squadrons have only 6 helicopters.

The helicopters used are:

- for reconnaissance, the Aérospatiale 341 Gazelle (built under licence by Westland) which can be armed with two pod-mounted 7.62mm machine guns;
- for attack, the Westland Lynx armed with 8 antitank missiles.

SQUADRON DEPLOYMENT TACTICS

According to Army Corps doctrine, the Linx antitank



helicopter is employed in a section composed of three helicopters, led by a Section commander. In this way, assuming that a FARP is available for refuelling and rearming no further than 20 Km from the FEBA, each Section in the Squadron can be rotated every 15 minutes so that there can be a constant turnaround of one hour for each aircraft.

As they will go into action mainly over familiar terrain (West Germany for the BAOR),

the Lynx crews, like their colleagues of the Heeresflieger, will be able to act independently. The main task of the Gazelle helicopters will be to direct the artillery fire and to watch the flanks of the antitank helicopters.

FUTURE AAC PROGRAMMES

Like the French and Germans, also the British went through a stage of 'adapting'





Left, top.

The Ha 342 M GAZELLE attack helicopter is armed with four HOT missiles.

Left, bottom.

The 330 PUMA HM (*Helicoptère de Manoeuvre*) is used by the Combat Helicopter Regiment for transporting MILAN squads.

Above.

The HA GAZELLE and the HM PUMA together represent the backbone of the ALAT Combat Helicopter Regiment.

an existing helicopter for antitank purposes. They too therefore plan to acquire a specially designed helicopter in the not too distant future. Known as the LAH (Light Attack Helicopter), this helicopter will be based on the Italian A-129 made by Agusta. For this purpose a four-nation

agreement (UK - Italy - Spain - Holland) has been set up as this project is included in the modernization programmes of other armed forces.

The new helicopter project, called TONAL (the Aztec god of war) will be developed side by side with feasibility studies on the third generation "fire-and-forget" antitank missile, which will give this aircraft the effectiveness and survival capability so much desired by pilots today.

USE OF HELICOPTERS BY THE ORANGE PARTY

Unlike most western armies, the Soviet Union and the Warsaw Pact forces do not have an "Army Aviation" in the sense of ground forces using

aircraft to achieve air mobility.

Air support, like fire support and heliborne transport, is provided for ground troops by the Air Force aircraft belonging to the "Frontline Aviation", which is part of the Air Force but is subordinate to the Army.

With regard to helicopters in particular, *Independent Attack Helicopter Regiments* operate within the Frontline forces and the Armies and Divisions attached to them. Each Regiment is divided into 3-4 Battalions of Attack Helicopters, with a total number of 45-50 Mi-24 HINDs and 1 Battalion of Tactical Transport helicopters equipped with 30 Mi-8 HIP helicopters.

It is immediately apparent that in this type of organization no provision is made in the



Above.

Armed with eight TOW antitank missiles, the Westland LYNX is employed as an attack helicopter and can transport an infantry squad at the same time.

Left.

In the British AAC the scout role is performed by the Aérospatiale-Westland GAZELLE.



Independent Regiment for light helicopters as are used by NATO for reconnaissance and scout operations.

Operationally, the Orange Party uses two main types of helicopter: the Mi-24 HIND for attack and the Mi-8 HIP for

heliborne assaults.

The Mi-24, which has distinguished itself particularly in anti-guerrilla operations in Afghanistan and in the Iran-Iraq conflict, is a true "flying cruiser" armed with an astonishing array of rockets,

missiles and cannons.

This helicopter, of which more than 1200 have been built, was introduced in 1972, subsequently undergoing considerable modifications and improvements. There are five versions: A, B, C, D and, recently, E. The latter version has the following armament:

- four rocket launchers, each with thirty-two 57mm air-to-ground rockets;
- four AT-2 SWATTER or AT-6 SPIRAL antitank missiles;
- two twin 23mm cannon-machine guns.

In addition there is sufficient room inside the aircraft for 8 fully equipped

men. It can roughly be compared with the US AH-64 Apache, although the principles of its tactical employment are quite different, as we shall see below.

Together with the HIND, the next most common helicopter is the Mi-8 HIP which, although a dedicated combat helicopter, has a basically heliborne transport role to play during the creation of bridgeheads or vertical bypassing. Its armament consists of:

- six launchers with sixteen 32mm rockets;
- four AT-3 SAGGER antitank missiles.

Its spacious fuselage can accommodate up to 24 fully equipped men.

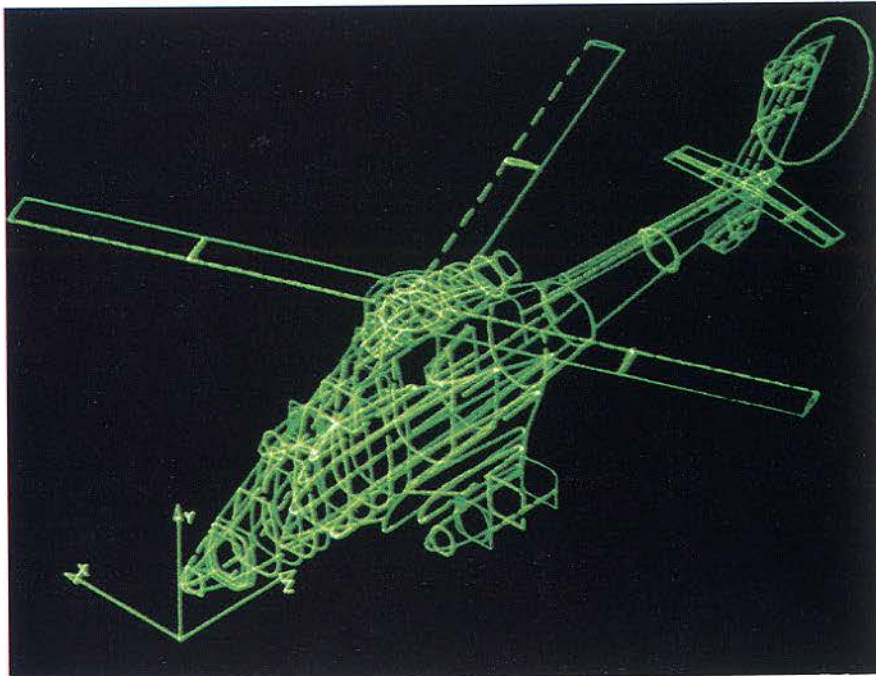
PROCEDURES OF EMPLOYMENT OF THE INDEPENDENT REGIMENT

The general doctrine of the Orange Party, based essentially on the offensive, has produced flying machines which are rigorously dedicated to this task. The attack helicopters, particularly the HIND, are used for a role based essentially on allowing the motorized and/or armoured units to advance as rapidly as possible.

The technology used in the construction of this aircraft allows it to keep ahead of the tank or troop transport formations and to clear a way for them by neutralizing the enemy under meteorologically difficult daylight or nighttime conditions (particularly in the north European theatre). They have thus proved to be more effective and close than the CAS (Close Air Support) aircraft, which are much more heavily penalized under such conditions.

In fact, its heavy armament, protection and speed enable it to be used (unlike western helicopters) more like a winged aircraft than as an actual helicopter.

Again, increasing importance is attributed to the



Above.
Computer image of the TONAL, clearly showing the influence of the A-129. This helicopter is intended to take over the LAH (Light Attack Helicopter) role in the '90s for the British AAC.

anti-helicopter role of the HIND, whose cannon make it a formidable adversary of the rotating wing antitank aircraft of the opposite side, the threat of which to their armoured formations is openly acknowledged by the Soviets.

The deployment technique of HIND formations involve 4 - 6 aircraft approaching the line of contact simultaneously in low level flight. As soon as the targets are identified, the helicopters do a slight climb to aim and launch the missiles, which normally occurs at the maximum possible range (about 4000 m.). In fact, to launch missiles or rockets while hovering, as practised and preached by the West, would be considered as certain suicide by the Soviets. The size, the noise and the cloud of dust raised by an Mi-24 while hovering make it easy to spot, making enemy reaction inevitable.

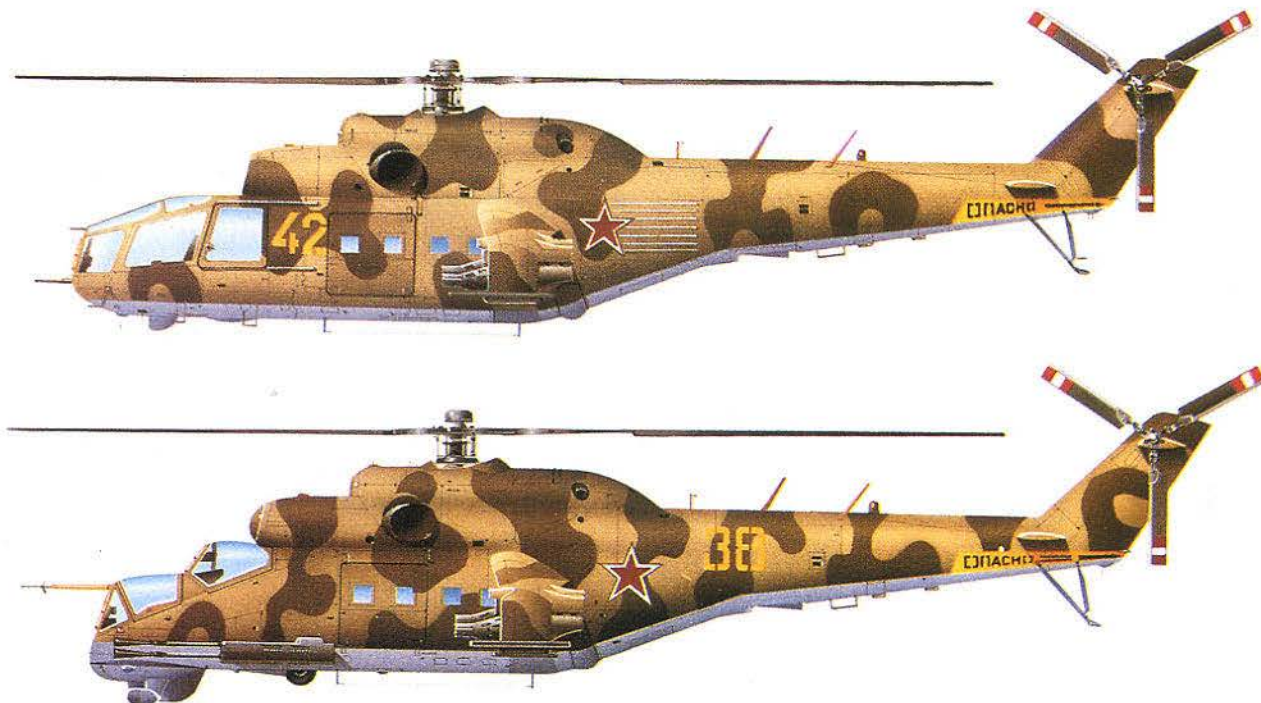
Consequently, only by relying on its high speed (about 300 Km/h) can it avoid the predictable enemy reaction by

taking rapid evasive action, moving away and then returning to repeat the attack from another direction.

Also the action of the Mi-8 HIP, which normally transports 24 assault troops, is based on high speed of movement and maximum use of firepower. The helilanding zone is approached in a tactical flight and, in order to neutralize all possible resistance and reaction, the landing areas are subjected to heavy rocket fire. The smoke and confusion thus created serve to surprise and disorient the enemy. Using this type of air attack an infantry battalion can be landed in less than 15 min. During such landings the Mi-8s are protected by Mi-24s acting in an anti-helicopter role. By controlling the front in depth and on the flanks, the latter can knock out any enemy reaction.

HAVOC AND HOCKUM: THE FUTURE ATTACK HELICOPTERS OF THE RED ARMY

Pictorial representations of two new Soviet helicopters — the Mi-28 HAVOC and the HOCKUM — have appeared



with increasing frequency in western air force publications.

The first of these, similar in shape to the A-129, is obviously a much lighter and thus more manoeuvrable aircraft than the Mi-24. It is thus likely that it would be used in a specifically anti-helicopter role.

The absence of the tail rotor on the second, of which very little is yet known, seems to indicate a high maximum speed (of the order of 350 Km/h). Its role could therefore conceivably be ground attack and hunting enemy helicopters.

Both projects seem clearly to indicate the great importance attached by the Soviet Union to helicopters which, by beating the United States at their own game, are gradually taking on a more dedicated role against ground vehicles and aircraft, and not just against tanks, as rotary wing aircraft were used for over the past decade.

CONCLUSIONS

This short outline of the way scout and attack helicopters are used in the major Army Aviations of the NATO and

Warsaw Pact countries aims at describing the aircraft available at present and in the immediate future and the underlying philosophy of their deployment tactics.

However, perhaps the most significant aim is that of focussing the attention and interest of future force commanders on the threat posed by helicopters which, with the sophisticated electronic equipment now available in all fields, will be (by day and by night) formidable enemies which cannot be ignored or underestimated. Furthermore, when used as a deciding factor in the defence, they could provide an extreme means of stopping a surprise attack or containing an enemy breakthrough in depth.

In this general context, the Italian Army will find itself in the van as the A-129 and the family of aircraft derived from it represent a suitable weapon system for doing the job both in defence and counteroffensive.

Giovanni Tonicchi

Top.

The first version of the Mi-24 to be built in large numbers is the Hind-A: it has four weapon racks, two dual slides for Swatter missiles and one heavy machine gun.

Above.

The 'E' version of the HIND differs from the others particularly in the twin-barrel 23 mm cannon and the installation of battleground night-vision equipment under the nose.



Lt. Col. Giovanni Tonicchi, a light aircraft and helicopter pilot-observer since 1961, is a tactical and special instructor at the Army Aviation Centre of Viterbo.

Among others, he has attended training and operational courses in the United States (transition to AH-1 S Cobra) and West Germany (identification of Warsaw Pact vehicles and weapons).

From 1965 to 1966 he commanded the Italian Helicopter Squadron attached to UNIFIL Headquarters in Lebanon.

Lt. Col. Tonicchi has about 7000 hours flying time to his credit.

DISEGNATO E COSTRUITO SU RICHIESTA DELL' ESERCITO ITALIANO



OTO C13 ARMATO CON TORRETTA SIDAM 25

SIDAM 25

SISTEMA INTEGRATO DI DIFESA ANTIAEREA

OTO MELARA



M113 ARMATO CON TORRETTA SIDAM 25

ARMAMENTO: 4 MITRAGLIERE  AUTOMATICHE DA 25 mm KBA

RITMO DI FUOCO: 2400 COLPI AL MINUTO



SYSTEMS DIVISION

SISTEMA DI PUNTAMENTO: CENTRALE DI TIRO OPTRONICA GALILEO

EQUIPAGGIO TORRE: 2 UOMINI (1 IN TORRE + 1 ALLA CONSOLE)

INSTALLAZIONE: SU NUOVI VCC o TRASFORMAZIONI ESISTENTI DI VTC o VCC



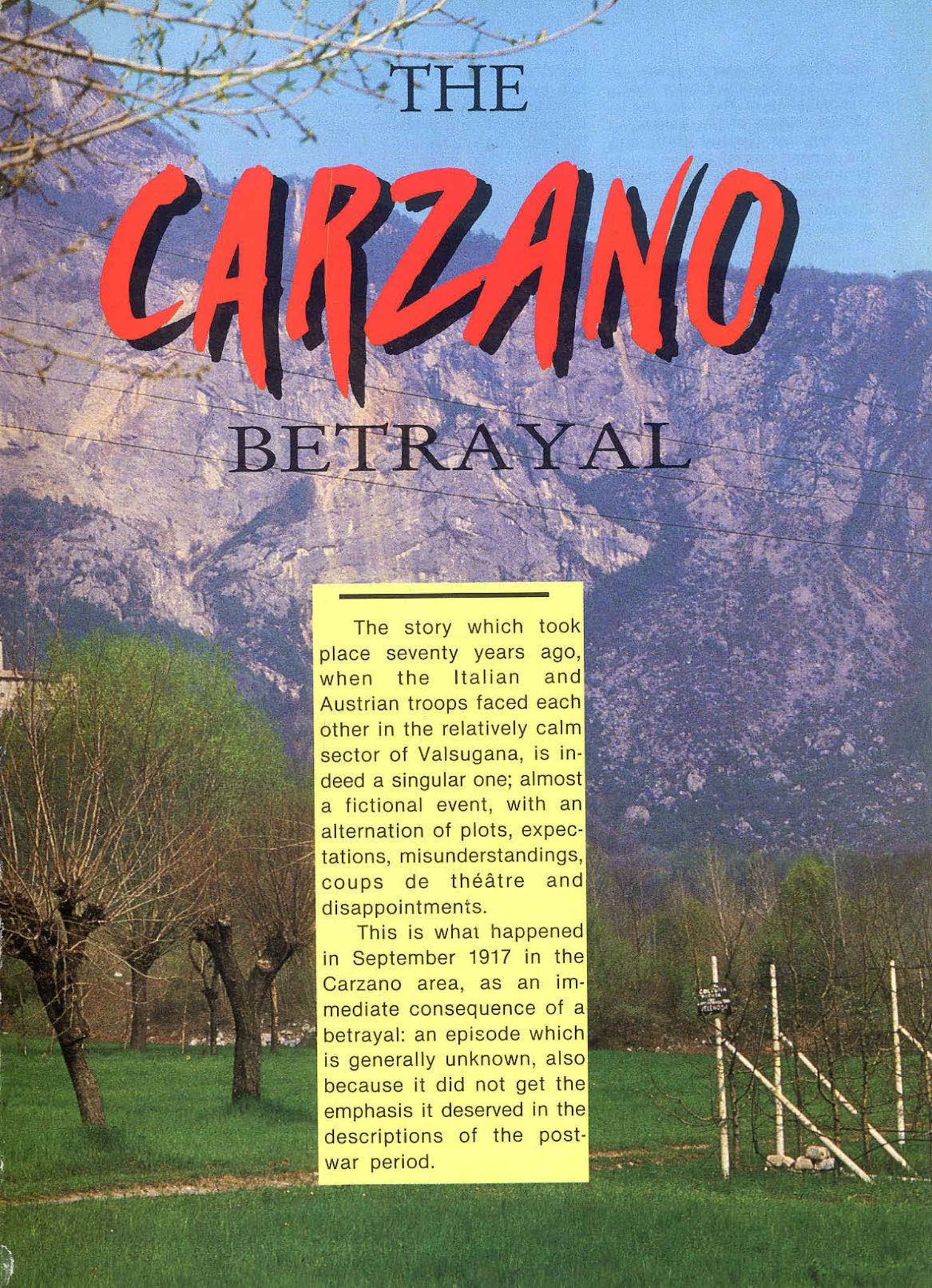
OTO MELARA SpA, (19100) LA SPEZIA VIA VALDILOCCHI 15
TEL (0187) 530 111 - TELEX 270368-211101 OTO I - TELEFAX (0187) 530 669

Una Società del Raggruppamento Consortile OTO MELARA - BREDA MECCANICA BRESCIANA - OFFICINE GALILEO

GRUPPO
EFIM

 **FINANZIARIA
E. BREDA**





THE CARZANO BETRAYAL

The story which took place seventy years ago, when the Italian and Austrian troops faced each other in the relatively calm sector of Valsugana, is indeed a singular one; almost a fictional event, with an alternation of plots, expectations, misunderstandings, coups de théâtre and disappointments.

This is what happened in September 1917 in the Carzano area, as an immediate consequence of a betrayal: an episode which is generally unknown, also because it did not get the emphasis it deserved in the descriptions of the post-war period.

Apart from the scarce news which can be drawn from the war bulletins of the time, the official reports of the Italian and Austrian General Staffs and the conclusions of the committee of inquiry, only two books were written on the Carzano event. These were written by the chief figures of this strange story, i.e. by the traitor, the Slovenian Lieutenant Ljudevit Pivko, and by his Italian partner, Major Cesare Pettorelli Lalatta, who later on became general (1). Both books were published in the immediate post-war period, but at the beginning the text written by Pettorelli Lalatta did not have the success the author expected. Printed in Trieste in 1927 with the title "Il sogno di Carzano" (The Carzano dream) and sent to Bologna for its subsequent distribution, the book was placed under restraint by the Fascist police after a precise warrant was sent from Rome, without warning the judiciary. So all copies were locked in the prefecture of the Emilian city, until they were destroyed in an air raid during the Second World War. Only in 1967 did Pettorelli Lalatta manage to have his book republished by the publishing house Mursia with the title "L'occasione perduta (Carzano 1917)" (The lost opportunity); the content was identical to that of the previous edition.

The accounts given by the Italian and Austrian sources, present very little difference: they coincide almost exactly but for a few details which will be emphasized, and partly differ only when the line of action is described, above all in the official documentations. Therefore it is not easy to assert what actually happened the night of September 18, 1917 in the Carzano area, but it is believed that it will be possible to find a presumed truth based on the investigation and subsequent comparison of the few available sources.

But before giving an account of what happened, it is necessary to briefly outline a

report on the main schemer of this event.

Ljudevit Pivko, professor of jurisprudence and philosophy at the Marburg Education Department, 30 years old, married, with four children, was recalled in 1915 as a reserve lieutenant and assigned to a battalion of Bosnian Landstürmer (2). He is a subject of the Hapsburg Empire not at all loyal to his King, an officer who wants to become famous at all costs, but not as those who love being covered in glory for their Country's good. On the contrary: first engaged on the Balkan front, he immediately makes an agreement with some Czech colleagues to take the enemy's side. But he faces Montenegrin soldiers and when he tries to move closer to their lines, they begin to fire with all the arms available. Immediately Pivko is wounded in a hand and his cap is pierced by a bullet. The attempt to desert has now failed and the lieutenant has to return quickly to his company, where he says he wanted to carry out on his own a surprise attack on the enemy lines: a lie which makes him worthy of a medal and earns him the reputation of being able of facing any danger.

Transferred in 1916 with the whole battalion to the Tolmino front, Pivko attempts another try, this time foiled by the reaction of the Italians, a reaction which forces him to fall back. But he does this only after picking up pieces of equipment abandoned by the enemy, which he shows his superior officers as spoils of his raid.

There follows a time for meditation and the Slovenian lieutenant is persuaded that it is better to give up these useless attempts to go over to the enemy as an unknown deserter. So he begins to develop the idea to do something which will really shake the Dual Monarchy with an action that will make the whole southwestern Austro-Hungarian front fall. His dream becomes a decisive operation to

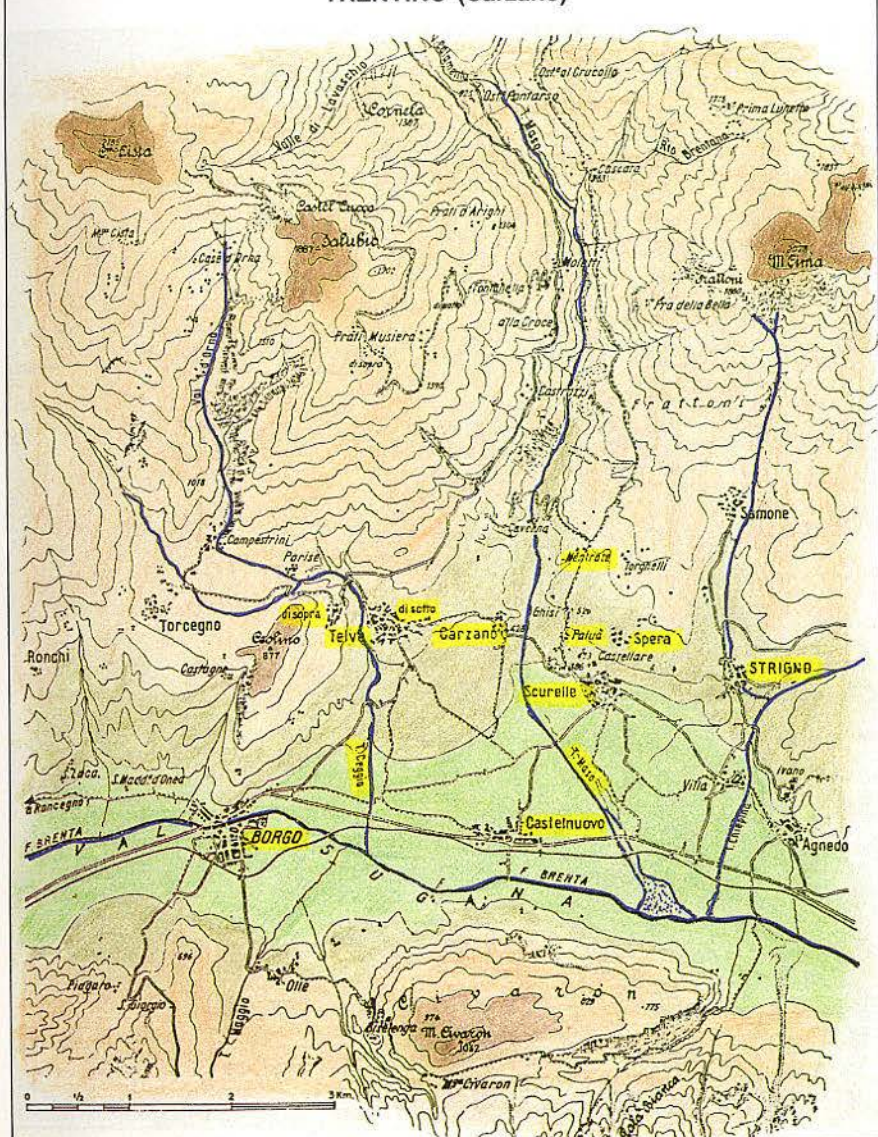
allow the Italians to break through the enemy lines thanks to the situations he himself created, but not in the Julian Alps area because, as he stated later, he wanted to spare the Slovenian regions the horrors of the war. Therefore it would have been better to knock down the Tyrol front, as a premise to the fall of the Isonzo line.

In May 1916 Pivko finds himself on the Col di Lana and in that period the attempts to contact the Italians begin. He obtains all the information available on the defence system in the area and gives it to a Russian prisoner, who takes it to the enemy saying it has been sent by a certain lieutenant Pavlin (3). For the moment the Slovenian officer does not wish for anything else, because he realizes that the position of the Col di Lana is not the right one to provoke the breakthrough he wants. He continues to fight with real courage, becomes the hero of Mount Sief and is awarded the order of the Iron Cross. Those who share his ideas criticize him, but Pivko thinks that by showing exemplary courage, he deserves his superiors' trust.

The deceit soon gives its results, when, in November 1916, the Bosnian battalion is transferred to Valsugana, in an area which the lieutenant considers ideal to celebrate the end of the Danubian Monarchy and, with it, the triumph of his life. Once they managed to pass the defence lines of Valsugana, the Italians would have reached without great difficulties Trento and Bolzano, causing the fall of the whole Tyrolean front.

Carzano is a small village in the Valsugana region, 30 kilometres east of Trento, where the valley opens up forming a relatively wide hollow, closed at the southern end by the sides of the Ortigara and north by the Lagorai mountain range. To the west, towards Trento, the valley remains open, while south-west of Carzano it becomes a long and narrow gorge, through which the river

TRENTINO (Carzano)



Brenta has found its way to the Venetian plane, a real canyon between the Grappa massif and the Altopiano dei Sette Comuni. The valley was, and still is, full of vineyards and orchards, two crops which will have their importance during the action.

The 181st Brigade manned the Austrian positions in the sector between Caverna and Mount Civaron. The Brigade was formed by: 4th Battalion, 4th Infantry Regiment "Hoch und Deutschmeister" deployed near Caverna; the 5th Battalion, 1st Bosnian Infantry Regiment in the Carzano area; the "Jungschützen" Brigade of Northern Austria between Scurelle and Castelnuovo; a company of the "Standschützen

Reutte II" west of Caverna; the 1st Battalion, 59th Infantry Regiment in the area of Malga Civaron, with outposts in the villages of Spera, Palua and Scurelle, which had to protect the sector from possible surprise attacks (4).

The Italian first positions in the Valsugana region were assigned to an Army Corps (General Etna's XVIIIth) consisting of two Divisions - 15th and 51st under General Zincone and General Di Giorgio's command.

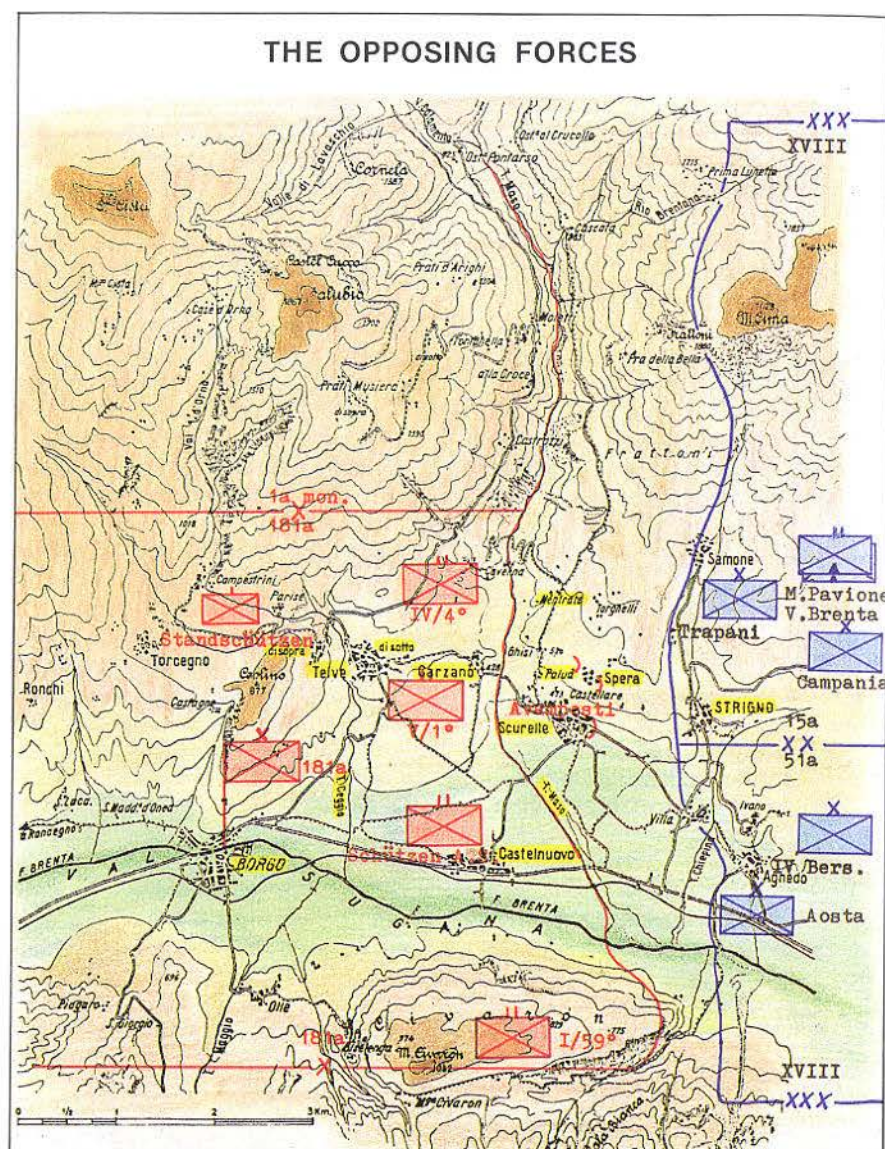
The time had arrived for Pivko to give way to his fantastic plan. The first step was to introduce to the Italian Supreme Headquarters an "unknown enemy" as a really

trustworthy person. In that period the Slovenian lieutenant, ad interim commander of the Bosnian battalion, could already rely on the cooperation of about fifty people, mainly of Czech nationality, as for example Lieutenants Sedleky, Veselko, Zeleny, Martinec and Irsa — the latter being a name which will be mentioned again at the end of this article. During the first half of 1917 Pivko is particularly active trying to collect the greatest possible quantity of information on that sector and trying to offer the Italians a complete picture of the situation. He thinks, after all, that Lieutenant Pavlin's name should already be known for the undoubtedly reliable data sent a year before from Col di Lana. The point now was to create a real masterpiece before setting out his plan to the Italian Commands, and therefore for months and months his accomplices travelled far and wide to all the positions of Valsugana to pick up, with the most different excuses, all the information they considered useful for their aim.

On July 11, 1917 the large report which had to be offered to the enemy was finally ready. Sergeant Mlejnek was chosen to deliver it; he was a very cunning young Czech, who during the night managed to creep so carefully through the barbed wire entanglements, that he succeeded in eluding the surveillance of the Italian sentries. He reached the outposts' headquarters without being seen and he presented himself to the officer, pronouncing the only Italian sentence he knew: "I am an emissary". Anyway he showed himself so determined to deliver the documents only to the highest level, that the Italians allowed him to proceed on a vehicle up to the Division Headquarters (Pieve Tesino), from where Lieutenant Pavlin's envelope was sent by motorcyclist to Vicenza and delivered to the Chief of the Army's Intelligence Office, Major

Pettorelli Lalatta, the author of the other book we previously mentioned, whose nom de guerre was Finzi — his mother's maiden name — and who used as password the anagram Inzif. Pavlin had written, inter alia, that he was ready to meet a General Staff officer in no-man's-land and this possibility had to be signalled by the Italians with two artillery shots fired exactly at noon, on any day, and confirmed, as soon as it was dark, with a light signal from Mount Levre. After the messenger returned, a very dangerous game started, with a number of night meetings between Pivko and Finzi in no-man's-land. The Italian major was convinced of the authenticity of the documents he had received, because the maps, the order of battle and the positions occupied by the units confirmed in general the information he had, but at the beginning the plan which his interlocutor layed out appeared to him as the result of a very fervid imagination. According to that plan, the Italians should have passed in absolute silence the Austrian positions defended by the Bosnians, Pivko having taken the responsibility to keep them harmless by using a strong soporific. After having opened the first breach, some kilometres wide, the Italian assault battalions, guided by the Slovenian lieutenant's accomplices, would have taken the neighbouring units from the rear, attacking them by surprise during their sleep and practically sweeping away the defence of the whole sector. In the meantime, motorized troops, mounted squadrons and cyclist units would use the same gap to head directly for Trento and Bolzano, taking advantage of the inevitable panic which would break out in the Austrian Commands.

In the end Finzi was convinced and explained the advantages of that unexpected possibility to General Pecori Giraldi, commander of the 1st Army (July 29); after further



improvement of his plan, so as not to leave anything to chance, on August 4 he presented it to the Chief of the General Staff of the Italian Army. General Cadorna examined it reluctantly and did not give his approval. He hated the idea of acting like a criminal, using opium and chloroform, and he wanted to decide the fate of the war on the Isonzo front, with a victory that would allow him to reach the moral objective of Trieste or the strategic one of Ljubljana. But after the unsatisfactory outcome of the Bainsizza battle (August 1917) he again considered the project suggested by the traitor; it is possible that he thought it very

convenient to find a way to forget the unsuccessful attempt to conquer Trieste by having the Italian troops enter Trento. Having received Major Finzi on September 4, three days later Cadorna summoned General Etna, ad interim commander of the 6th Army, and other officers, to have the major himself illustrate the details of the action.

The plan included the use of 14 columns of mixed composition for the "breaking and penetrating" phase and moreover it envisaged two more complex units, the first of which had the task of directly reaching Trento, while the second had to cross the passes of Val Cadino and San Lugano



to descend in the Adige Valley to the village of Ora, where it would interrupt the road and railway communications between Trento and Bolzano.

Finzi was meeting Pivko very often (5), always at night, and on August 26 he even made him pass through the Austrian frontline. During those talks it was established that the Bosnians in the sector were to be given an extra ration of coffee and rum with a large dose of soporific provided by the Italian major himself, while the Slovenian lieutenant's men would wait for the first assault units, to guide them through the labyrinth of vineyards and orchards, and subsequently make them fan out behind the Austrian defence. The

organizational stage met no obstacle and it was decided to move into action on the night of September 14.

But, soon after, one of the so frequent conflicts of competence took place, and it was necessary to postpone the date of the attack. Major Finzi had asked the Army Command for special attributions, because the only way of keeping the secret was to limit the number of people involved in the plan. The Army command accepted his request and the major could give orders and instructions without having to go through the normal chain of command: a procedure his direct superiors rather disliked. They heavily criticized that officer, who was so prompt in the directives for

The Ceggio Stream, between Carzano and Telve

an operation the aim of which they themselves did not know. On the eve of the attack General Zincone, commanding officer of the columns destined to move first, refused to take part as an ordinary walker-on during an action which was to be directed by an officer whose rank was much lower than his own. It was therefore necessary to postpone the beginning of the attack to September 17 at 11.00 p.m., to smooth out, at a higher level, these last minute contrasts (6).

Something happened also in the enemy field, and it could have destroyed Pivko's dream for good: on September 11, the order was given to arrest two

non-commissioned officers of the Bosnian battalion, under the accusation of high treason and connivance with the enemy. Pivko panicked, because those two — one of which was sergeant Mlejnek — could have revealed every detail of the plot. He thought of running away to save himself, but his hopes rose again when he realized that the higher command did not take as reliable the words of the accuser, corporal Urban, a cook at the Officers' Mess — who, among other things, had mentioned the name of the most decorated man in the battalion, i.e. Lieutenant Pivko himself. To explain how the inquiry was carried out would take too long: it will therefore be sufficient to know that the two non-commissioned officers were acquitted, and the accusation was considered an invention for personal revenge. The accuser was taken to a mental hospital to be checked for possible nervous disorders due to a badly cured typhus! (7).

But this was not the only hoax played on the Imperial and Royal Army. On September 13, while visiting the Tyrol front, Emperor Charles wanted to see in the area of the Lago di Caldonazzo the representatives of all the units employed in that sector. The overtrusting superior officers made the absurd mistake of sending Pivko as a representative of the Bosnian battalion. The consideration he enjoyed is demonstrated by the fact that even the Sovereign was informed of the "absurd charges" which had been made against the Slovenian lieutenant. In fact, the Emperor inspected the troops and when he approached Pivko, the aide-de-camp whispered: "It's him!". The Sovereign looked with visible satisfaction at the lieutenant's many decorations and said: "We were very sorry to learn of the shadow cast on you. I pray you to greet my brave Bosnians" (8). At that very moment the opium provided by Major Finzi was already in Pivko's shelter, in a

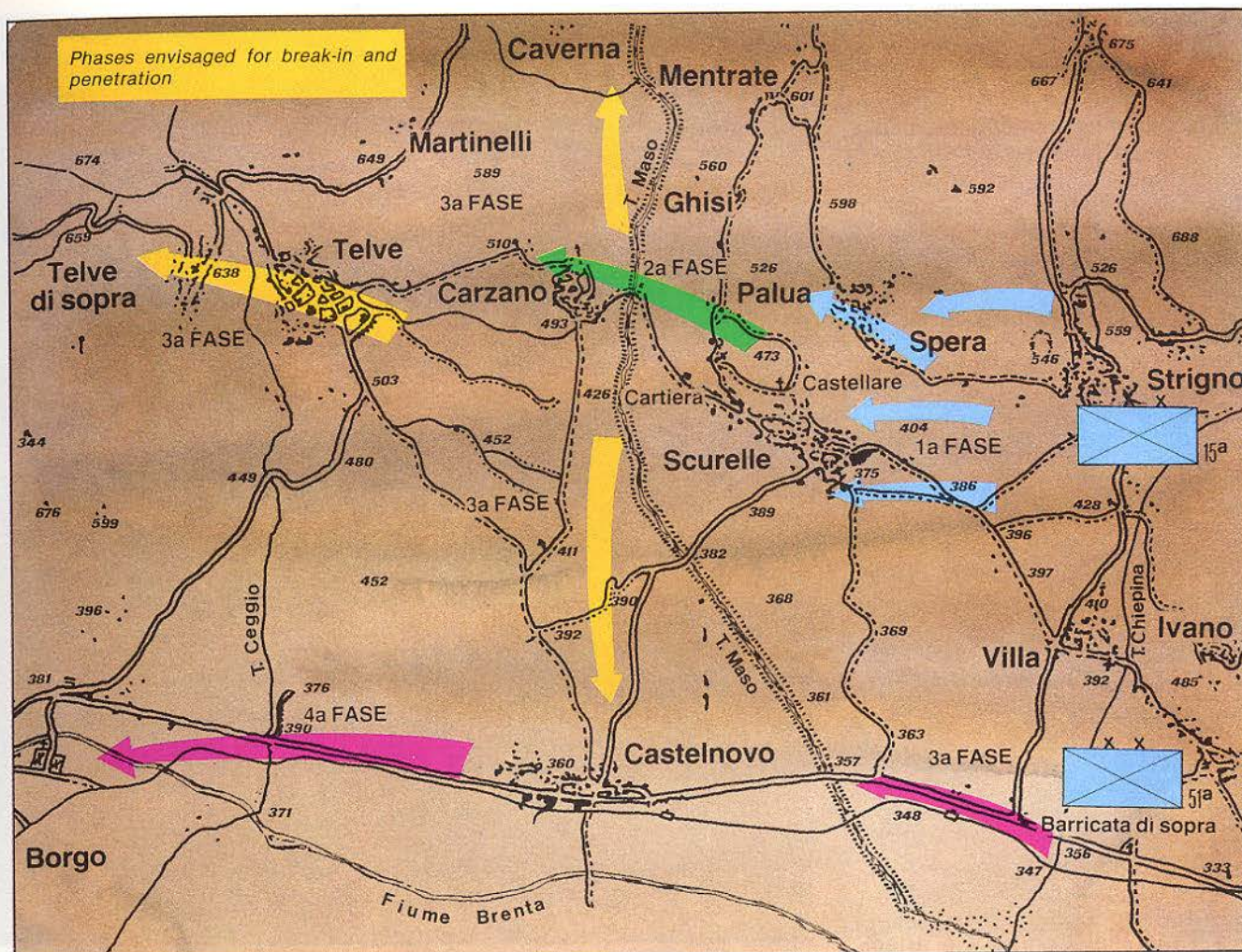
quantity sufficient for one hundred litres of drink to be given to those Bosnians so dear to the Emperor (9).

And the operation begins. Eve of the new moon: an incredibly dark night, with an overcast sky. In the Austrian positions west of the Maso Stream everything is calm. The sleeping drug mixed with the coffee has put to sleep, in their shelters, the officers and soldiers of the Bosnian battalion, while the sentries are desperately fighting an unusual tiredness (10). Pivko's accomplices have disconnected the electric power from the obstacles, have opened a breach in the barbed wire entanglements and put out of use the battalion's searchlights. In the villages of Spera and Scurelle, the guides are preparing to receive the Italian assault troops, who have to cross the three bridges built on the Maso, according to a very precise timetable. Pivko's men arrive at 11.00 p.m. at the fixed places, but they do not find anyone; they listen hard, but without hearing any sound that could reveal the presence of other people. Many of the patrols begin to worry: if the plan were to fail, they would certainly pay for the betrayal with their lives. The worry turns into fear. A first hour goes by, and then another. "No-one could imagine — wrote Ingomar Pust in his book "Il fronte di pietra" (The stone frontline) — that such an intelligent, precise and clever officer like Finzi had forgotten that on September 15 Italy had gone from summer time to standard time".

This is a completely wrong observation, because it was Austria that changed the time at 3.00 a.m. on September 15. The Italians changed it in October and therefore they had the watches set an hour ahead compared to the Austrian ones. In fact it was not the difference in time to delay the arrival of the attacking units (11). A number of difficulties had arisen during the approach, caused by the replacement, the night

before, of one of the frontline battalions, expert of the area. This difficulty would not have come to pass had the attack been confirmed for the 14th. This was probably Finzi's fault, who in his book mentions that particular replacement very much "between the lines". But, above all, one must take into account the darkness of the night, which seriously delayed the march of the Italian units, making them cover only two and a half kilometres in about three hours.

The misadventures begin. Part of the Czechs, afraid of what their fate might be, move back to their own positions and the Italian units, not finding the guides in the right places, begin to wander aimlessly among the vineyards. They even think of having fallen into a trap and are afraid of being attacked at any moment. Where the guides have been waiting during all those hours, the difficulties are different. The Italians have brought with them a certain number of Dalmatian deserters who, though knowing Italian and German, do not understand either German-Bohemian or the Czech spoken by Pivko's men (12). The attackers manage to occupy the first positions defended by the Bosnians and move into Carzano, capturing about two hundred prisoners, who are locked up in the church. But a Bosnian, who has managed to escape, alarms the other sector, and at the same time a Deutschmeister patrol, trying to contact Pivko's battalion, clashes with an Italian unit. In a small chestnut wood north-east of Carzano, there is a section of heavy machine guns in concrete positions and its commanding officer — second lieutenant Knott — begins to fire with the two arms towards the village. Also the mountain batteries begin to fire from their positions northeast of Telve di Sopra and this unexpected fire, confuses even more the ideas of the Italian commanders, who have not yet managed to recover all the battalions from the labyrinths of vineyards and



orchards. In fact, such an immediate reaction had not been envisaged, and it is thought that it must be a trap set out by the enemy.

Major Ramorino, commander of one of the most advanced units, has not got a clear picture of the situation, does not trust the conspirators and ends up by not understanding anything when he hears shooting also behind him. With such confusion and the darkness of the night, the men following his unit, having seen the fezzes worn by Ramorino's soldiers to mislead the other Austrians, think they are facing true Bosnians and bombard them with a large number of hand grenades (13). And for the major this is the confirmation that they have been betrayed. Two Czech guides are shot on the spot, while Pivko, having been condemned to immediate

hanging, manages to escape thanks to an artillery salvo which has started a barrage in the whole sector of Carzano.

From 3.30 a.m. the Italian advance begins to mark time. Some units stop before Telve and the columns which were supposed to move south, towards Castelnovo and Borgo, get lost and are unable to continue in their assigned directions. Useless are the attempts carried out by major Finzi to make General Zincone act "by force". Three hours later, after having been authorized by the ad interim commander of the 6th Army, the general orders the withdrawal of all columns, also because the Austrians have already started a counterattack, albeit with units inferior to half a company.

The Carzano adventure was over.

After the failure of the operation — Cadorna, in 1926, wrote that on that occasion he had got "the worse fit of anger of the whole war" — the Italian Supreme Command opened an inquiry: a procedure which ended with the replacement of the Army Commander, General Etna, of General Zincone and some regiment commanders. On the contrary, Finzi managed to demonstrate that if the commanders' behaviour had been as perfect as his organization, the action would certainly have been a success, also because, without the surprise attack, it was possible to act by force and the numerous Italian units would have, no doubt, overcome the 300-400 defenders. Moreover, the Austrian commands had not understood what was happening, the defence was carried out only by the initiative

The village of Telve, deepest Italian penetration. Some Austrian mountain batteries were deployed to the northwest of the village.

of individual commanders, and the few battalions sent for reinforcement did not arrive at the Borgo station before nine in the morning. These reinforcements were scarce, because the Austrians had already started transferring more than 60 battalions and about 30 batteries from the Trentino to the Isonzo front. In May 1918, Major Pettorelli Lalatta was awarded the Military Order of Savoy for all the work he had done, not only on that particular occasion.

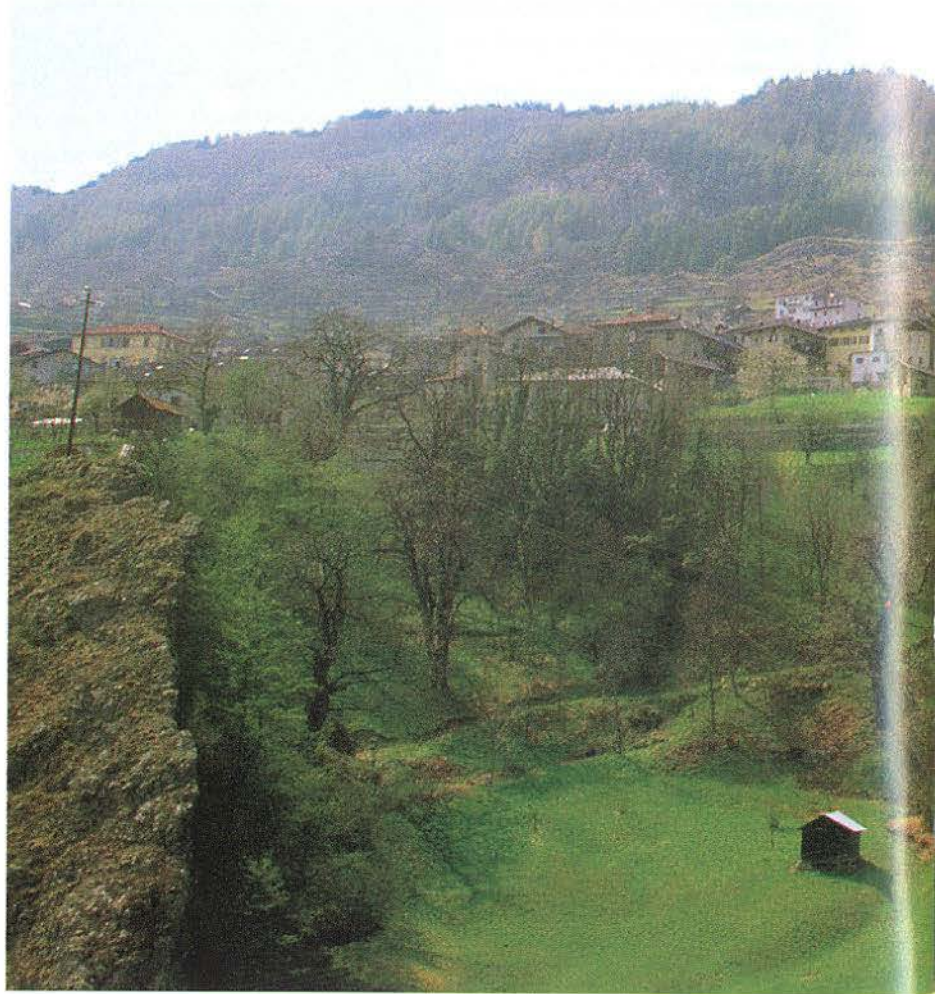
The Carzano event cost the Italian Army 20 officers and 896 soldiers dead, wounded or missing. The Italian war bulletin of September 19 was very brief: "In the direction of Carzano, one of our units succeeded in crossing the enemy lines on the Maso Stream, capturing 200 prisoners". That was all. On the same day the Austrian bulletin made an announcement which could have implied the unsuccessful betrayal: "On the front of the Army Group of Field Marshal Conrad the attack aimed at reconquering part of the Carzano sector — temporarily abandoned to the enemy — was very successful. The total number of prisoners was 11 officers and 516 soldiers" (14).

On May 5, 1918, the Imperial Defence Minister answering an interpellation made in Parliament on the Carzano betrayal, repeated what had been said already by the generals after the military inquiry: "The country should rejoice in having been able, without serious consequences for the Empire, to get over the great danger which had threatened it, the gravity of which, based on the most despicable betrayal, was such to plunge anyone in consternation.

In the eight pages dedicated to the Carzano event, the report presented by the General Staff's Historical Office

illustrates with many details the aims that had to be reached, the formation of the columns and the envisaged stages of the attack, but does not explain convincingly the causes for its failure. These are the only sentences that give an explanation of the problems encountered during the action: "Then the 7th column... having lost its guide during the march from Strigno to Spera, lost contact with the preceding column, also due to stops, longer ways etc.; and, instead of reaching its objective (the Maso line), stopped at Spera. Such inconvenience was reflected into the following columns, the 8th and 9th, who followed the way of the preceding column, and instead of carrying on towards their objectives, they too stopped near Spera". "The 8th column received the order to move on

to Carzano-Telve, the 9th was to march to its own objective, Caverna; the 10th had to move towards the Maso line between Carzano and Castelnuovo, but because of the bad communications the orders were not received simultaneously"... "The 8th column.. instead of moving to Carzano, went north of Palua, towards Ghisi... and, feeling threatened by the enemy patrols and their fire, turned to Strigno. The 9th column, instead of starting its march straight away, for unknown reasons started off about an hour after the order had been received... finding itself in the middle of the enemy's fire... withdrew towards Spera in groups. While the 10th column... was about to follow the instructions to continue the action... General Zincone requested and obtained from the Army Command the





authorization to stop the operation". "...artillery, guides and interpreters destined to some of the columns, did not arrive or arrived late, communications were missing or inadequate".

The Austrian official report illustrates the Carzano episode in 25 lines, underlining only the fact that the enemy columns were stopped — it would have been more precise to write just "stopped" — even before the intervention of the Division and Army reserves.

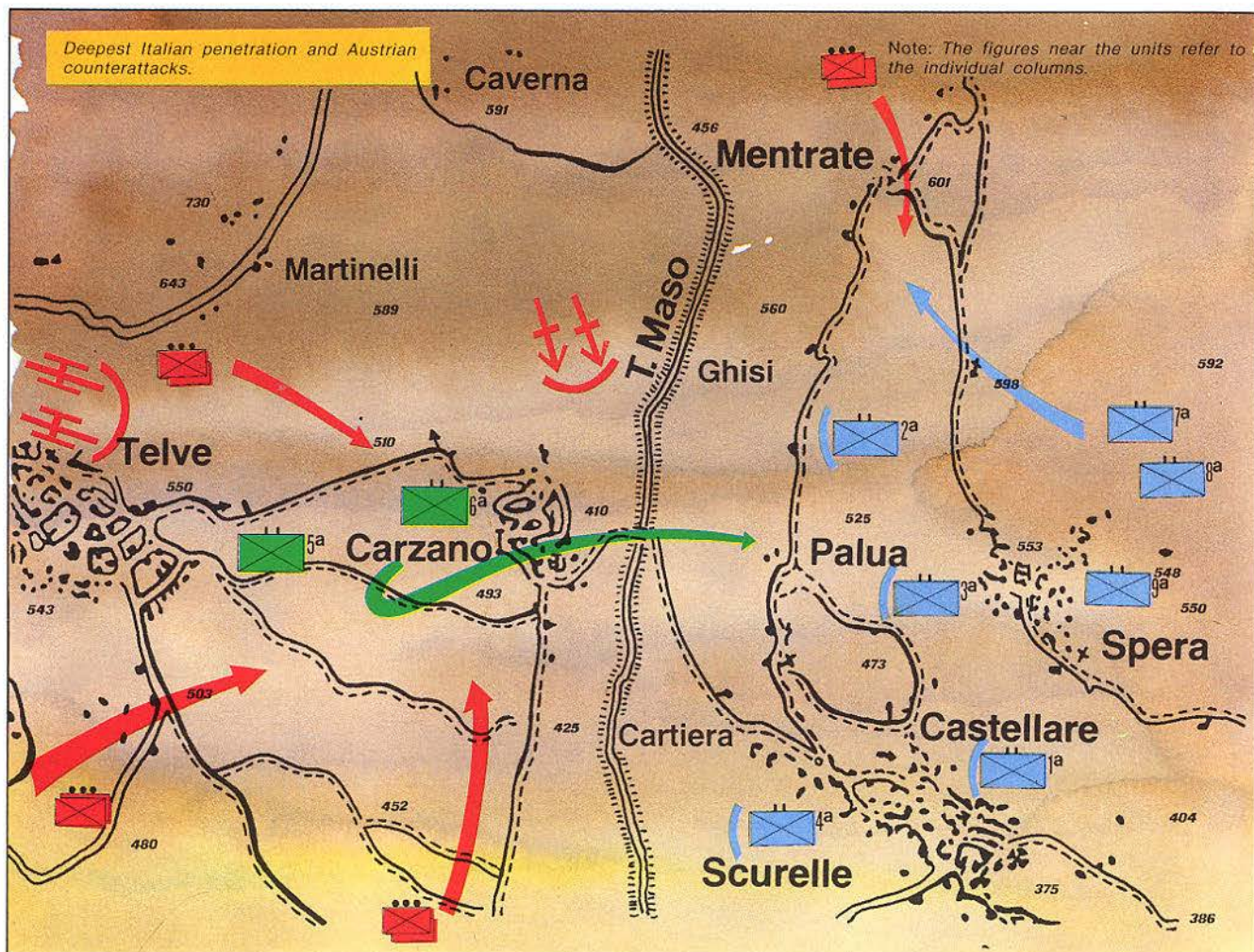
A more detailed report was made by the 11th Austro-Hungarian Army, issued by Field Marshal Conrad to all the troops in October 1917. It is a document in which all the events are described in chronological order, from the alarm at 1.20 a.m., to the countermeasures taken, from the individual counterattacks, to

the moment when the Italians abandoned Carzano (7.00 a.m. - 8.30 a.m.). A glorification of the success gained, which however is in contrast with the impressions of a Czech soldier: "...Major Lakom wanted to form a defence unit with the carriage troops: but nobody listened, and everyone ran away towards Marter and Levico... The road from Borgo to Marter was full of soldiers, carriages, horses and guns moving away quickly from the Ceggio and Castelnuovo fronts... On that night, even the Headquarters of the 181st Brigade ran away, while that of the 18th Division moved straight away from Roncegno to Levico... All officers disappeared from Telve and Borgo, and it was not until three or four days later that those who had got lost found their own units... The positions near the Maso Stream between

Carzano and the railway were defended only by a few machine gunners and by a few soldiers still in the front line...".

On September 19 Cadorna wrote to General Robilant, who was in charge of the inquiry, "If the operation had been well organized and carried out, it had all the elements for success". A judgement with which one can easily agree, if one takes into account the requirements considered indispensable by the Italian Chief of the General Staff for the full success of the operation.

But from the little evidence in our possession, we get a picture of unjustifiable jealousies, excessive uncertainties and scarce capacity of organization and conduct of actions by night. The main cause of failure has to be sought for in a severe



operational short-sightedness and in the lack of a precise will to do something more than just a simple "coup de main" — as General Etna had thought it from the start — and to use all the available forces to the maximum of their ability, to beat the sporadic enemy resistance.

A very embarrassing situation for both Italians and Austrians, and for this very reason a thick veil of silence was drawn on the Carzano event, as its disclosure would have damaged the prestige of both parties, and probably that of those who had wanted to take advantage of a betrayal in the hope of obtaining a great military victory. A victory which — supposing that one could formulate a hypothesis in a historical event — would perhaps have spared the Italian Army the Caporetto disaster.

And Pivko? He certainly could not be awarded more Austrian decorations and — according to Fritz Weber — had to spend five weeks in jail, because the Italians thought he was lying when he declared that the Germans and the Austrians would soon have attacked in strength on the Isonzo front. But having received the sad evidence on October 24, Finzi himself created for him a mixed unit (Czechs, Slovenians, Serbians and Italians) to be employed against the Austro-Hungarians, a unit which stood out in June 1918 when it took part in the actions on the Altopiano dei Sette Comuni for the conquest of M. di Valbella and Col del Rosso (15). After the fall of the Dual Monarchy, Pivko returned to his hometown Marburg, where he wrote his memoirs, a national hero for the majority of

Slovenians, a renegade traitor for his fellow countrymen who had fought till the end under the flags of the Empire.

Then came March 1939 and Hitler, in spite of the Munich agreements, invaded Czechoslovakia. Austrian by birth, he considered the conspirators of Carzano, and all the members of the Czechoslovak Legion in Italy, as traitors of the great German Motherland. He had them searched for and shot: first in line Lieutenant Irsa, already mentioned, who in the meantime had become Chief of Staff of the Czech Army.

One could still ask: and Pivko? Pivko again managed to avoid a dishonourable end... thanks to his natural death, which had occurred two years before in 1937.

Giulio Primicerj



Major General (ret.) Giulio Primicerj has attended the following courses: Military Academy, Application School, War College, Joint Staffs Institute, Führungsakademie of the Bundeswehr. He commanded the "Bassano" Alpine Battalion, the 8th Alpine Regiment, the "Cadore" Alpine Battalion. He was then Army Attaché at the Embassies of Bonn and The Hague. Author for the Arcana publishing house of the following books: "Cronaca di una disfatta" and "Lubiana o Trieste?". He translated and commented for the same publishing house: "Il Piave - L'ultima offensiva della Duplici Monarchia" by Peter Fiala and "Il Fronte di pietra" by Ingomar Pust. Gen Primicerj has also translated for the History Office of the Army General Staff the "Diario di guerra del Comando Supremo della Wehrmacht 1939-41", a work by Behrendt on Rommel's intelligence activities in North Africa and the volume on the German Official Report on the Second World War "Dalla non belligeranza italiana all'intervento degli U.S.A.".

NOTES

- (1) Episode partly described also by Ingomar Pust in: "Il fronte di pietra", Arcana Editrice, Milan 1985, by Fritz Weber in: "Guerra sulle Alpi", Edizioni Mursia, Milan 1978 and by Pettorelli Lalatta in: "I.T.O. Informazioni Truppe Operanti", Agnelli editore, Milan 1931.
- (2) Landstürmer: units formed by calling to arms young men who still had to do their military service and those whose age was between 31 and 55 years, even if they had been previously considered unfit for military service.
- (3) The Austrians employed the Russian prisoners as manual labourers even very near the front line.
- (4) Jungschützen: volunteer formations, recruited by region. Standschützen: volunteer formations (in the beginning, members of target-shooting clubs) aged between 17 and 70. Hoch-und Deutschmeister: a regiment recruited

only from the Vienna district and with traditions dating back to the XII century. A Division of armoured grenadiers in the Second World War, today its heir is the 4th Jäger battalion of the Bundeswehr.

(5) Meetings between Finzi and Pivko: 21 and 26 July; 3, 15 and 26 August; 4, 6, 11, 13 and 15 September.

(6) This incident is mentioned only by Austrian sources (Pust and Weber, *ibidem*) Pettorelli Lalatta ("L'occasione perduta") does not mention it, even though it is clear that between him and General Zincone things were not going very well. According to the history office of the Army General Staff, the attack was put forward from the night of the 19 to that of September 18.

(7) The Committee of inquiry was convinced that Urban was lying, also because the Italians did not attack on the 14th as he had declared (Weber, *ibidem*).

(8) On that occasion Pivko came to know that he was destined to another task in the 11th Army and that Major Lako would immediately take the command of the Bosnian battalion (Pettorelli Lalatta: "I.T.O.", *ibidem*). A prudential step? A reason for the change in date previously mentioned?

(9) A few hours later, Pivko proposed to Finzi to kidnap the Emperor, because he knew where the sovereign was going to spend the nights in Valsugana, but the Italian major certainly could not accept personally such an invitation (Pettorelli Lalatta, *ibidem*).

(10) Finzi had 10 flasks of aqua vitae and rum with opium, 50 doses of soporific and 60 small bottles of chloroform.

(11) The Italians knew about the change in time on the enemy side, but they had considered it the wrong way. In fact they thought they were an hour behind compared to the Austrians (Pettorelli Lalatta: "L'occasione perduta").

(12) Pust, *ibidem*, Pettorelli Lalatta, *ibidem*, in the list of interpreters mention only two foreign names, but it is not certain that the Italian interpreters were able to understand also German-Bohemian or Czech. A lack of help from the interpreters is also mentioned in the text of the History Office of the Army General Staff.

(13) Pivko in "Carzano" and Pust, *ibidem*, and also Pettorelli Lalatta, *ibidem*, admit that the Italian units fired at each other.

(14) Austrian losses. Dead: 1 officer, 32 non-commissioned officers and soldiers; wounded: 5 officers, 91 non-commissioned officers and soldiers; missing: 4 officers, 183 non-commissioned officers and soldiers. Consumption of Austrian munitions: 7.023 artillery shells, 95.000 machine-gun rounds, 200.000 rifle rounds.

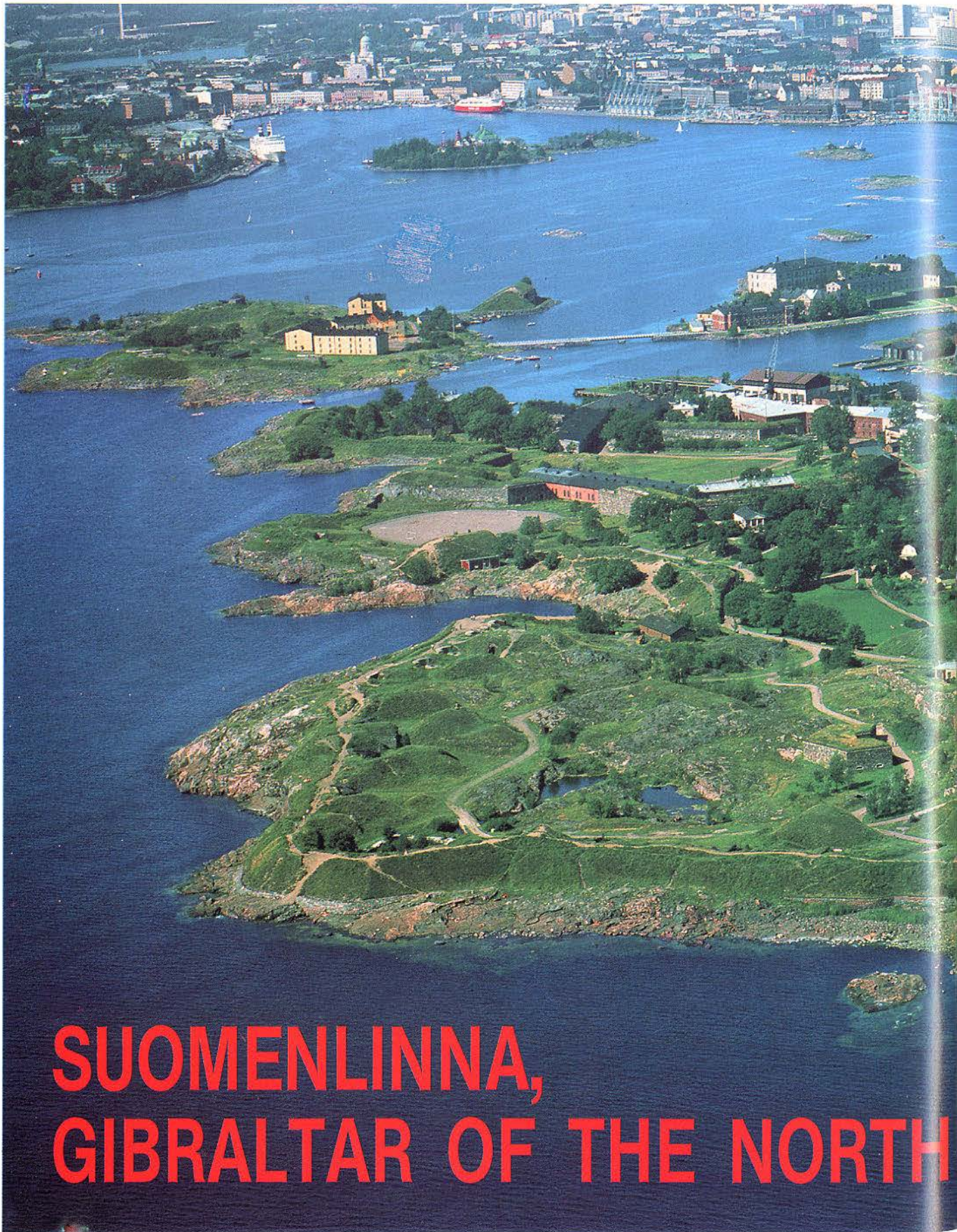
Italian losses: (according to Austrian sources). Dead and buried: 4 officers, 360 non-commissioned officers and soldiers; prisoners (wounded or unharmed): 13 officers, 536 non-commissioned officers and soldiers.

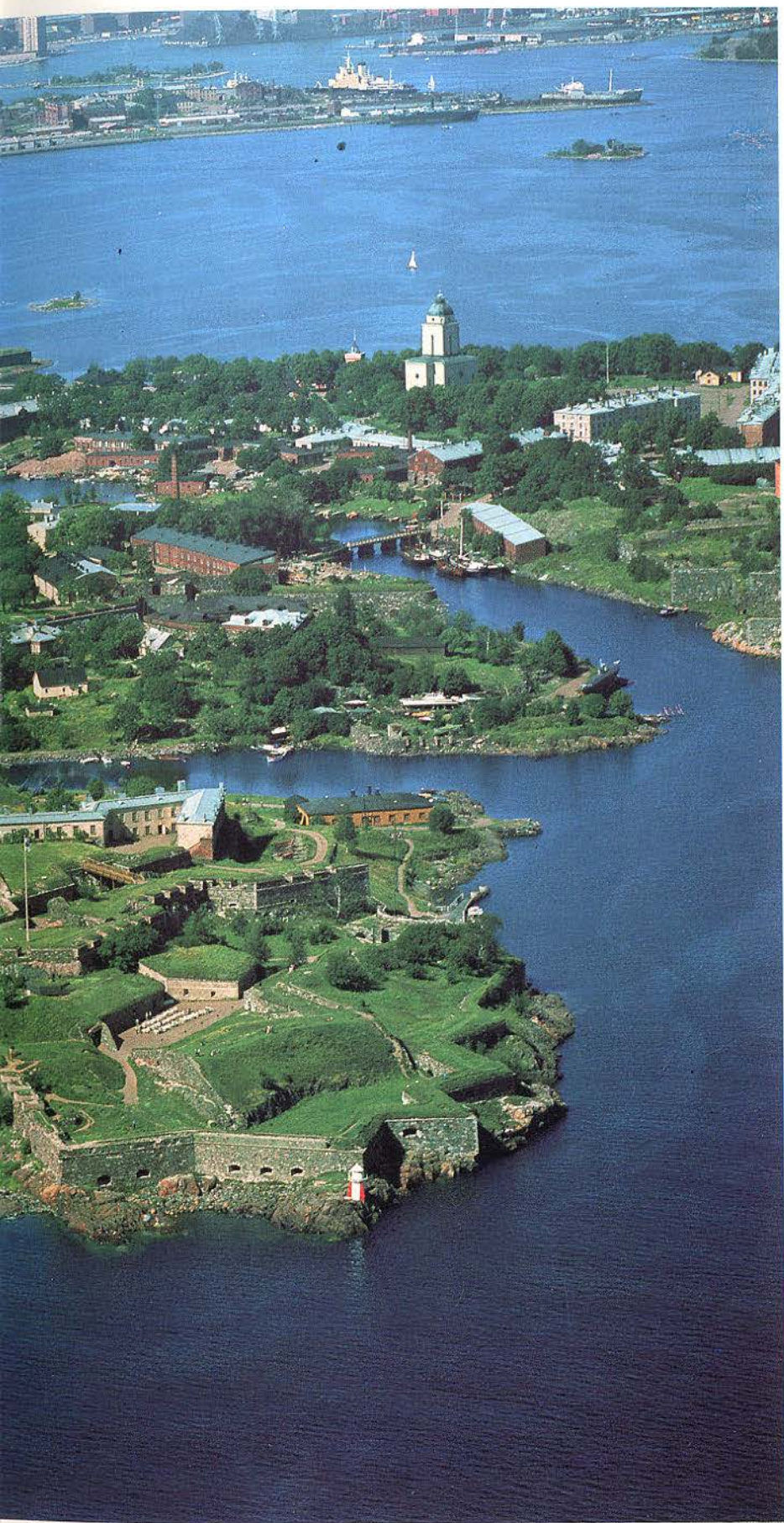
(15) The detail about the brief captivity is not confirmed in the books by Pettorelli Lalatta and Pust. But Pettorelli Lalatta does confirm the employment of the mixed unit in actions carried out together with the Italians.

BIBLIOGRAPHY

- Hqs. of the Austro-Hungarian 11th Army: "Report on the fight in Carzano on September 18, 1917", no. 2189 RR of October 20, 1917.
- Austrian Federal Defence Ministry - Military Archives "Österreich Ungarns letzter Krieg" (Austrian official report on the First World War), Vol. VI, Vienna 1938.
- Pettorelli Lalatta, Cesare: "Il sogno di Carzano" (The Carzano dream), Publishing House Venezia Giulia, Trieste 1927 (A copy is still available in the City Library of Trieste).
- Pettorelli Lalatta, Cesare: "I.T.O. - Informazioni Truppe Operanti" (Information Operating Troops), Publishing House Giacomo Agnelli, Milan 1931.
- Pettorelli Lalatta, Cesare: "L'occasione perduta (Carzano 1917)" (The lost opportunity), Publishing House Mursia, Milan 1967.
- Pivko, Ljudevit: "Carzano", Marburger Verlag, Marburg 1924.
- Pust, Ingomar: "Il fronte di pietra" (The stone frontline), Arcana, Milan 1985.
- Seifert, Josef: "Isonzo", Libreria Editrice Goriziana, Gorizia 1983.
- S.M.E. (Army General Staff) History Office: "L'esercito italiano nella grande guerra", (The Italian Army in the First World War), Vol. IV, part. 2, Rome 1954.
- Weber, Fritz: "Guerra sulle Alpi" (War on the Alps) Publishing House Mursia, Milan 1978.
- Corriere della Sera: Issues of September 1917.
- Osservatore Triestino: Issues of September 1917.
- Corriere della Sera: Issues of August 1957 (Article on a meeting of "Carzanisti" in Trento).

THE CARZANO BETRAYAL





Once Suomenlinna, or Sveaborg as it was called, was the largest fortress on the coasts of the Swedish Empire. Its precise task was to guarantee the safety of the Eastern side of the Empire, when in those days Finland was its furthest province. It also had to offer the Swedish Navy a good operating base for its activities on the coast. It must be remembered that until 1809 Sweden and Finland formed one country and it was only in 1917 that Finland changed from being a Grand Duchy of the Russian Empire to being independent.

But still in the XVIII century the frontier between the Russian and Swedish Empire ran further eastwards along the Karelian Isthmus, with Viborg (today known as Viipuri) at the border. After 1721, as a result of the Great Nordic War, the Swedish border was moved backwards to Hamina and then to the River Kymmene. This new arrangement — subscribed in 1743 — was to last until 1809. So came the immediate need to strengthen the new border, with the expansion of the town of Lovisa, the construction of the fortress of Svartholm and of the much more powerful one of Sveaborg, while the Russians were doing the same at Kymnlinna, following the project put forward by Alexander Suvorov.

Under the directives of Maresciallo, an engineer who later became Count Augustin Ehrensvard, the construction in Sveaborg began in 1748 and lasted for decades, involving six islands just off the Helsinki bay, then known as Helsingfors, and a large number of architects, carpenters and workers of every kind. The huge construction site had to be planned not only for the construction of bastions and lunettes, but also for a great number of depots, batteries, barracks and various quarterings. It also had to provide a series of open spaces, in harmony with the Swedish functional style of the



Left.

The "King's Gate" on the largest of the six islands, where the fortress of Suomenlinna is located.

Below.

Detail of the fortress of Suomenlinna. Its construction began in 1748.



another 110 years. The last works for its fortification were completed and new barracks were built, but this time for the Russian garrisons. While it was a Russian fortress, it suffered a heavy bombardment in 1855 by the English and French fleets during the Crimean War: in some parts of the bastions the damage is still visible today. The stronghold was again heard of in 1906, during a mutiny of its garrison.

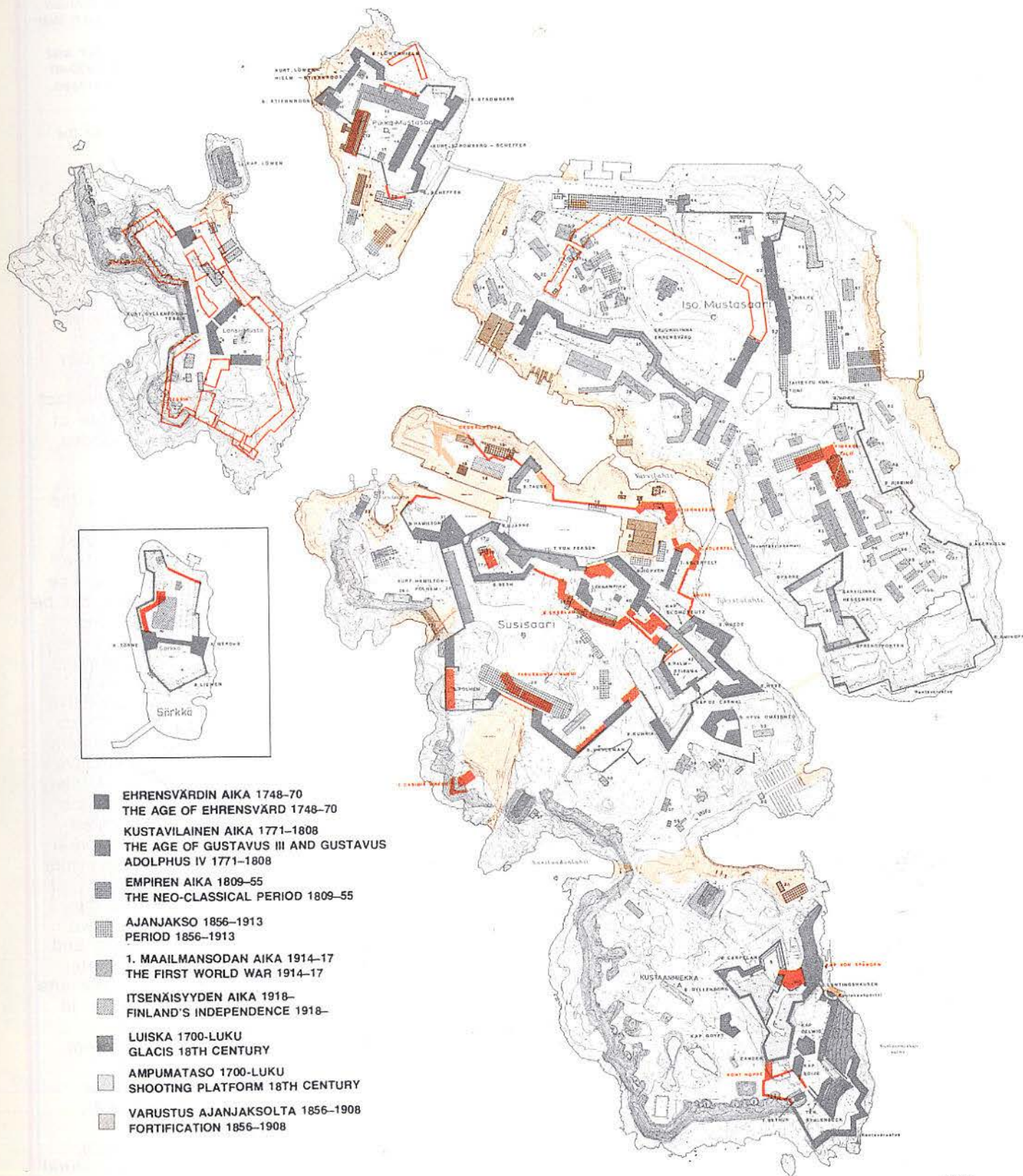
After 1917, when Finland became an independent Republic, the fortress was taken over by the Finnish Armed Forces and it changed its name to the present one of Suomenlinna, i.e. "The Fortress of Finland". It remained for many years a strategic point full of coastal batteries. Only recently, in 1973, was the stronghold abandoned completely by the military. Nowadays it is the centre of military museums, cultural activities and the Finnish Naval Academy.

The horizontal outline of Suomenlinna is visible at a great distance, and there is a regular daily ferry service for the tourists. Infact a visit to Soumenlinna takes up almost a whole day: each one of the six islands has a fortress, the perimeter of the bastions is eight kilometres long and in its days it allowed the use of up to 1300 cannons and mortars. The circuit of the walls is of rather irregular shape and does not form a symmetrical polygon, but it follows the fragmentary lines of the islands relief. Moreover there are no clay works, evidently substituted by the sea and the hard rocky ground, the same type shaped to form the dark stones for the

XVIII century. Moreover, the officers and soldiers were to live with their families, so much so that in 1805 an author wrote that "The Sveaborg fortress can be considered a town". To fully understand this statement, it is enough to think that in the

fortress lived 4600 people, while in the whole of Helsinki there were only 4200!

But in 1808, after only sixty years from its creation, Sveaborg was conquered by the Russians, during the Finnish War, and remained Russian for



+ 14 800'



Left, top

1) Swedish War Flag, 1750; 2) Swedish Naval Flag, 1756; 3) Russian Imperial Flag, 1808; 4) Flag of the new Finnish State, 1918; 5) Present day Finnish War Flag.

Swedish volunteer, Finnish soldier and Russian infantryman in winter 1939-40 uniforms, exhibited at the Sotamuseo.

Below

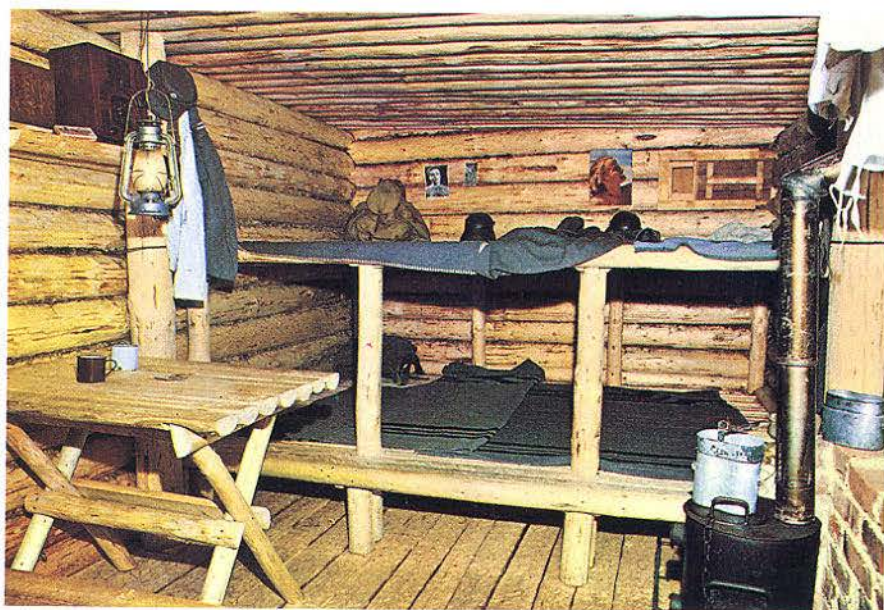
War shelter (1941-45) exhibited at the Sotamuseo.



THE FINNISH MILITARY MUSEUM

Nowadays the Finnish Museum (Sotamuseo) is located in Helsinki, in the premises of an old barrack belonging to the "Unsimaa" 1st Rifle Battalion.

The brick building dates back to 1882, and is signed by the architect Evert Lagerspetz. The actual museum, founded in 1929, was located just in the fortress of Suomenlinna, and was moved to its present site in 1948. In it, one can find mementos and documents of the whole Finnish Military history, from the Swedish period to the two World Wars: 60,000 pieces of every kind, grouped in different collections, plus a photographic archives which are constantly updated. Even though not all the material is on show, the Museum is ready to open its archives to researchers, it organizes specialized exhibitions and works in close operation with the other History Museums.

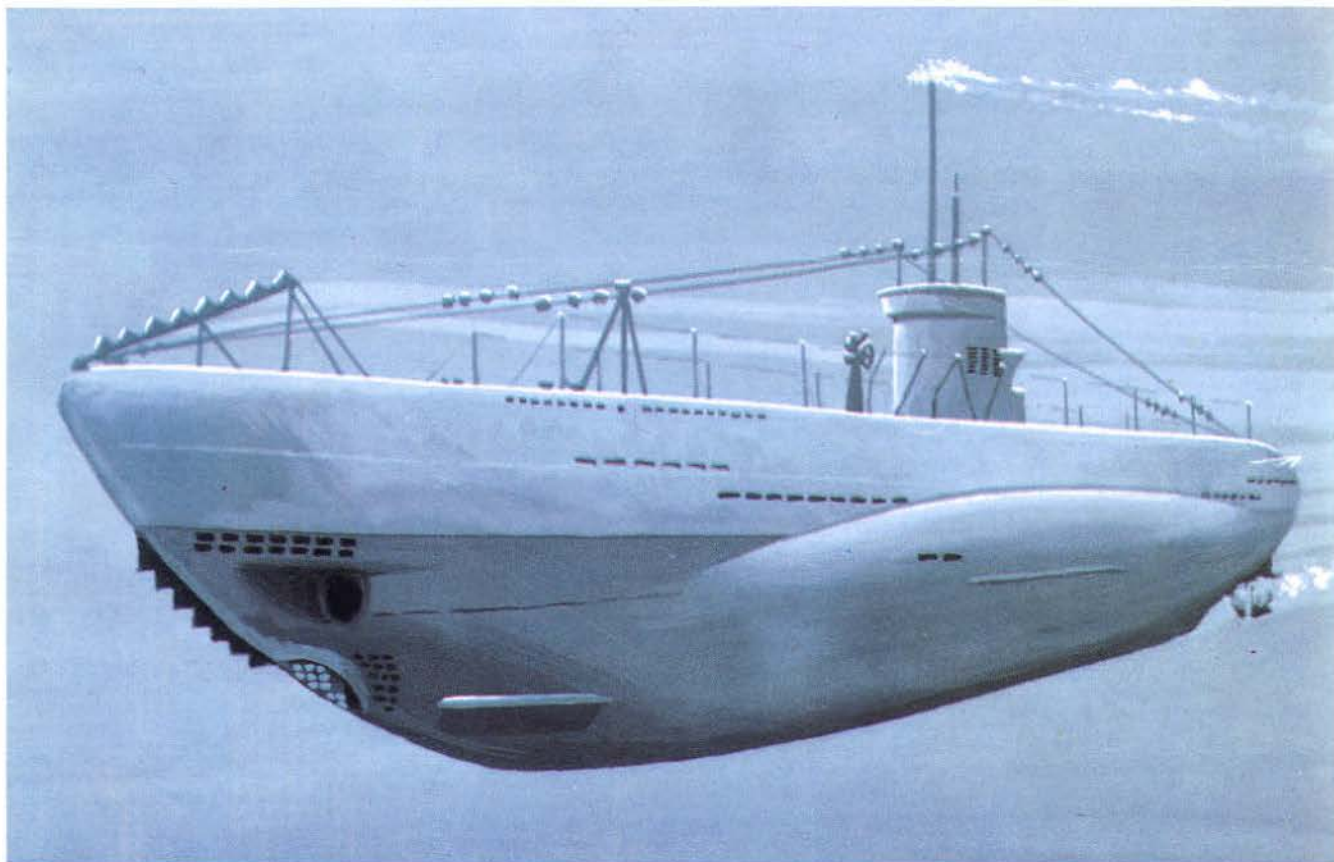


bastions. The use of so much brickwork in the defence lines — in the XVIII century — can be surprising. Such archaism can only be justified by the fact that a Naval fortress in those days was under the threat of a fire power weaker than the one for a land stronghold, considering the fact that the weight and calibre of the arms on board a wooden ship were limited.

The bulk of the fortifications is situated in the islands of Susisaari and Kustaanmiekka — which are practically joint together. The latter is nearly all occupied by a small fortress, which could be reached by sea through the Olympian Royal Door (Kuninkaanportti/Kungssporten), by crossing a succession of galleries and exterior defensive perimeters which are still very well kept. The island's former powder magazine is nowadays the site for the Coastal Artillery Museum, while in the fortress' bastions there is the Armfelt Museum, with a reconstruction of the comfortable life of senior officers in the XIX century.

In Susisaari we find the main fortress, formed by two concentric bastioned walls and by various impressive parade-grounds. The fortress is the site of the Ehrensward Museum, in which the fortress' main historical collections are kept, dating back to the XVIII century. Finally, one cannot avoid mentioning the nearby Nordic Art Centre (Pohjoismaiden Taidekeskus), which is the result of a cultural agreement between Finland, Sweden, Denmark, Norway and Iceland.





Above
"Visikko", the last Finnish submarine.



Left
*"Baranov" 65 mm Russian cannon.
 (1885).*

On the northeastern side of the island of Susisaari it is possible to visit the Vesikko, which is practically the last submarine of the Finnish Navy, since the Paris peace treaty (1947) declared that Finland was not to have or build submarines. Built in 1933, it took part, during the Second World War, in various operations in the Baltic Sea. Well preserved, it has remained unoperational in Suomenlinna since 1962, for the tourists to admire.

And finally some preview news: in the near future the Finnish Military Museum too, will open a specialized section in Suomenlinna.

Marco Pasquali

Source of the illustrations and documentations: Museovirasto (National Board of Antiquities).

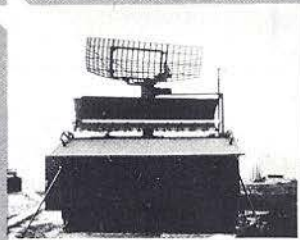
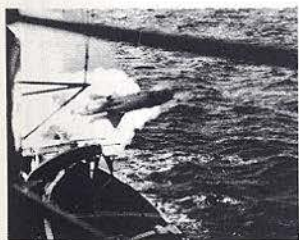


Il diario di un combattente in Libia

Interessante diario di Stefano Longo, giovane ufficiale dei bersaglieri in Libia nel 1912, illustrato con pregevoli disegni. Riporta osservazioni di persone e cose senza alcuna retorica, con sentimenti di calda umanità e vivace senso di umorismo.

Verrà inviato in omaggio a coloro che, entro il 31 dicembre 1987, si abboneranno per l'anno 1988 alla **Rivista Militare**, versando L. 22.000 sul c/c postale n. 22521009 intestato a Stato Maggiore Esercito - Rivista Militare - Sezione di Amministrazione - Via XX Settembre 123/A - 00187 Roma.

40 YEARS EXPERIENCE



SMA is a flexible company founded in 1943. Since 1948 has been active in design, development and production of electronic equipment for defence. Main activities are radars for ground, shipborne, airborne, missile applications and related display systems. The company broad spectrum permits the supply of turnkey systems tailored to the end-user needs.

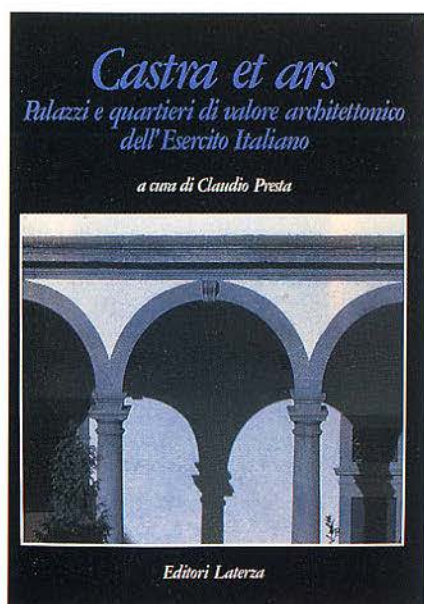


SEGNALAMENTO MARITTIMO ED AEREO

SMA's basic product lines and business sectors include: High definition and discrimination coastal radar control stations, both for maritime traffic management systems and military application (anti intrusion, coastal defence, mine splash detection); Shipborne navigation /search radars devoted to low, very-low air coverage (anti sea skimmers); Missile active homing heads, provided with a variety of ECM devices, for SSM (OTOMAT MK2) and ASM (Marte MK2) applications; 360° coverage search and navigation airborne radars for helicopters and maritime

patrol aircraft; Standard Pod contained search radars for fixed wing aircraft to be employed in conjunction with ASM; Integrated search and tracking radars for A/A defence to be employed both on specialized trucks (OTOMATIC) or on semi-mobile/fixed station for point defence; applied research aimed toward millimetric waves (up to 100 GHz) in active and passive sensors (radiometer); Duct analysis and electromagnetic propagation forecast.

P.O. BOX 200-FIRENZE(ITALIA)-TELEPHONE:055/27501-TELEX:SMARAD 570622-CABLE:SMA FIRENZE



Perugia, Convent of Santa Giuliana.
The Chapter Room.

"Castra et Ars" - Palazzi e quartieri di valore architettonico dell'Esercito Italiano (Buildings and compounds of architectural value used by the Italian Army) by Claudio Presta, Laterza Publishing House, Bari, November 1987, XII + 320 pages.

The publication is the first systematic attempt at providing an inventory of the palaces, convents and properties of remarkable historical and architectural value entrusted to the Italian Army. Leafing through the book, adorned with neat

I am pleased to have the opportunity of presenting a publication, which I believe particularly significant from an artistic and social standpoint. It is in fact a collection of essays — the result of systematic studies carried out with scientific rigour — concerning the use and preservation of buildings and compounds which for more than one century have been part of the infrastructural wealth of the Italian Army.

From the artistic and technical point of view, the initiative is important mainly because it fills a considerable gap in the inventory of works done by important architectural schools and famous masters. Works which are mostly neglected or hardly mentioned among the author's production; works which, owing to their originality and to the quality of their artistic expression, deserved, and still deserve, a greater prominence. This action of retrieval would in itself justify the authors' effort and the engagement of the Army General Staff, which sponsored and promoted the undertaking.

But there is another remarkable aspect: the architectural structures in question are fully utilized as Commands, Schools, lodgings of Army Units. Inside these buildings flows the daily life of the personnel that work there. For the maintenance and preservation of these edifices, considerable human and financial resources are employed.

The purpose of this book is therefore to point out the numerous and complex interventions that the Army, with its own staff, has made through the years in order to preserve these properties of historical importance in the best possible condition. Strengthening, restoration and preservation interventions have been planned with technical expertise and carried out with equal competence combined with sincere feeling and enthusiasm.

A glance through the beautiful pictures that illustrate the volume suffices to prove that the excellent level of preservation of these "architectural jewels" is certainly not the result of improvisation but, on the contrary, the fruit of an accurate and fervent planning.

Agreeably condemned by the enormous quantity of art treasures to a role of guardianship on behalf of the entire western civilization, Italy often performs this duty with difficulty. The resources destined to this task are never sufficient and, in a difficult financial juncture, it is necessary to establish priorities, a fact that sometimes compels us to neglect masterpieces which the rest of the world envies us.

As regards the infrastructure entrusted to the Army, in times when the attention given to art (especially that expressed by the religious institutions) was subordinated to military needs, it was a matter of making a virtue of necessity. The buildings were turned into barracks, with adjustments and changes which under no circumstances altered the original structures. As a matter of fact, the barracks became places of art where the Army considered itself not an abstract and inattentive custodian but a conscious and discreet user, proud of the wealth entrusted to it, and increasingly fond of the things in his care.

photographs by Silvia Massotti, one is aware of a diffuse and keen attention given to a cultural wealth which the entire world envies us. This is a sign of a more and more developed consciousness of the value and function of this artistic wealth. Our monuments, in great danger of progressive deterioration (which is almost always due to man's ignorance, indifference and neglect) must be protected and made the most of. This means that they should be restored not to be mummified, but salvaged to be brought back to life. In fact, the best way of preserving a monument from decay is that of putting it to use again after its restoration: use ensures maintenance, the only manner of keeping a monument in good repair.

And although the new use may be dif-

ferent from the original one (such as, for instance, the Great Hall obtained through the transformation of the church in the monumental compound of San Domenico di Cafaggio in Florence, seat of the Military Medical School) the important thing is to avoid that the buildings be deprived of their artistic value and sacred dignity.

The artistic edifices shown in the book are clear evidence that the process of deterioration, destruction and replacement has been stopped, the natural course of things has been prevented from becoming unnatural and the flowing of time has been prevented from becoming anti-historical.

With expert and appropriate preservative interventions (with the utmost respect for their original architectural configuration, i.e. without altering their original structure)



Nevertheless, the Army has brought to the attention of the political authorities and public opinion — also very recently — its necessity to have new barracks, more rational and functional and more suitable for the present requirements as regards the training and life of the personnel. In many occasions the Army has declared itself willing to hand over to the local and regional administrations all the areas, buildings and compounds located within the historical centres, in exchange for appropriate areas and structures which would give the Service more possibilities of carrying out its institutional tasks.

The dialogue, started sometime ago and about to result in a new Bill, will presumably lead to the return of many structures of historical and artistic value to other public sectors. It is a necessary operation, due to the mentioned functional reasons, but certainly not a painless one. Many of the buildings have become almost a symbol for our Army. A symbol of its continuing living presence in the heart of our society, its allegiance to its institutional tasks, but also of its correct use of the public property, with the most rigorous and convinced respect for the artistic and environmental values of our country. The book represents a testimony of the restoration and preservation efforts made in order to turn these buildings into living and vital structures. It is moreover a testimony of a not negligible contribution to the cultural development of our country, especially of our young, thanks to the utilization of these structures by a large and always new public. Let us just consider how many young men and citizens of all ages have walked into these "art-barracks", how many people have crossed the threshold of a Recruiting Office, designed by a famous artist, to ask for information or to deal with a bureaucratic matter, how many have directly and personally been involved in the maintenance, preservation and study of the infrastructure of Commands, Schools and Units shown in this book, or of the many others, of lesser importance but interesting nevertheless, which are not mentioned.

Certainly not all the people who in the past century, sometimes hurriedly, have come into contact with the buildings in question may have been aware of the lines of the various architectonic orders, the simple elegance of an Ammannati portico or the masterly touch of Vanvitelli. But undoubtedly the great majority of people have absorbed, perhaps without realizing it, a "measure" of beauty and harmony which, besides providing nourishment for the spirit, has helped to develop that artistic consciousness which, as in the case of the Italians, is the distinctive feature of a people.

Also in this direction, the Army is aware and proud of having been, and still being, useful to our society.

Rome, November 1987

**The Chief of Staff of the Army
General Ciro Di Martino**

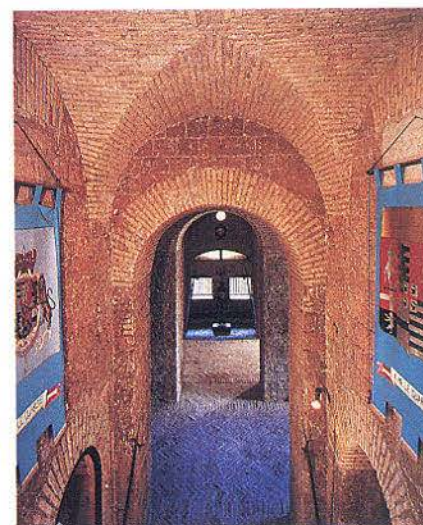
the body of functions and forms of employment has been regulated so as to make the requirements of transformation compatible with those of preservation. Through an intelligent respect for the permanent values, an effort has been made to find the right balance between confirmation and transformation.

The book is divided into two parts: in the first, fifteen monographs written by as many well qualified authors present in exhaustive form and with a wealth of details, convents, palaces, fortresses belonging to various architectural typologies. In the second part, 30 summary descriptions present as many monuments. There are therefore 45 historical buildings (as many as twenty-two of which are convents) selected among a large number of edifices, which made it

impossible to introduce all of them. Among the ones deserving mention: Fort Pietralata, Headquarters of the "Granatieri di Sardegna" Mechanized Brigade, with its imposing walls, carefully restored; the Chapter Room on a rectangular plan, with two central columns and decorations with floral and geometrical patterns, brought to light in some rooms of the Convent of Santa Giuliana in Perugia, seat of the Military Hospital; the open gallery of Modena's Palazzo Ducale, prestigious seat of the Military Academy; the pavement of the internal courtyard of the "Palazzo dei Soldati della Repubblica Serenissima", seat of the Headquarters of the Amphibious Troops; the Piedimontese baroque of the 17th and 18th Centuries, evidenced in monumental form by the Arsenal of Turin, seat of the Application School.



*Florence, San Domenico di Cafaggio.
The Great Hall.*



*Rome, Fort Pietralata.
Interior.*

"Castrametum" appears, by a singular coincidence, at the same time as the magnificent exhibition "Memorabilia" (sponsored by the Ministry of Culture and Environment, Dec. 1987-Jan. 1988) which, besides being a census of our decaying cultural assets, intends to be a warning, a message, a spur to intervene with determination and timeliness to save, safeguard and enhance our heritage of art and culture: by renouncing it, our society would be renouncing also its history.

The volume, published by Laterza on behalf of the Army General Staff, is a preliminary answer to this message and to this stimulus, received with enthusiasm and passion.

Gian Carlo Torcelli



Belgium: Grenadiers (1883).





RIVISTA MILITARE

JOURNAL OF THE ITALIAN ARMY FOUNDED IN 1856



MAY
JUNE
1988

LIRE 4,000
\$ 4
D.M. 6
£ 3



CIRO DI MARTINO
The Objectives
of the Army
for 1988



ROMANO PRODI
Italy's Outlook
Within the World
Economy



CARLO RUBBIA
Infinity: A
Physicist's
Meditations





E.M.P.A.

European
Military Press Agency

**RIVISTA
MILITARE**

BIMESTRALE
Supplemento al n. 3
della Rivista Militare

Direttore responsabile
Pier Giorgio Franzosi

Direzione e Redazione
Via di S. Marco, 8
00186 Roma
Tel. 47357373

Pubblicità
A cura della segreteria
dell'Ufficio Rivista Militare
Tel. 6794200.

Stampa
Tipografia FUSA Editrice s.r.l.
Via Anastasio II, 95 - 00165 Roma

Spedizione
in abbonamento postale
Gruppo IV - 70%.

Condizioni di cessione per il 1988
Un fascicolo: Lit. 4.000
\$ 4 DM 6 £ 3
Un fascicolo arretrato: Lit. 8.000
\$ 8 DM 14 £ 6
Abbonamento Italia: Lit. 22.000
estero Lit. 30.000. L'importo deve
essere versato su c/c postale
n. 22521009 intestato a
SME Ufficio Rivista Militare -
Sezione di amministrazione -
Via XX Settembre 123/A - Roma.
I residenti all'estero possono
versare l'importo tramite assegno
bancario o vaglia internazionale.

Autorizzazione del Tribunale
di Roma al n. 944 del Registro
con decreto 7-6-1949.

Fascicolo curato da
Gian Carlo Torcelli

CONTENTS



Number three 1988
May-June

The aim of Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.

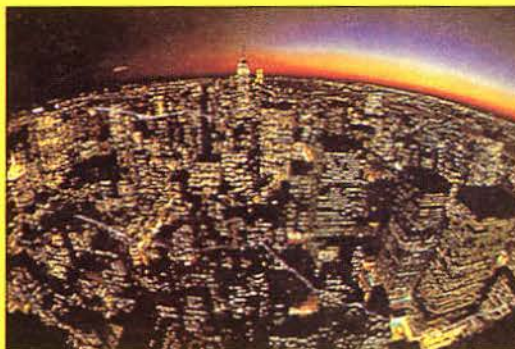
Politics, Economics and Strategy

- 2 **The Objectives of the Army for 1988**
(Ciro Di Martino)
- 16 **Italy's Outlook Within the World Economy**
(Romano Prodi)
- 30 **Military Culture: Traditions, Values, Teachings**
(Fortunato Pietro Muraro)
- 40 **The Evolution of the Doctrine of Employment**
(Sergio Onnis)



Science, Technology and Training

- 48 **Infinity: A Physicist's Meditations**
(Carlo Rubbia)
- 60 **Infantry Today**
(Giuseppe Caccamo)



72 Book Reviews



Rules for contributors. Anyone can contribute. In the interest of the maximum objectivity of information, Rivista Militare allows contributors considerable freedom, although it does not necessarily subscribe to their opinions. The articles are published unedited and free of any editorial constraints and are therefore the sole responsibility of the Author and reflect his personal ideas exclusively. The topic must be treated in an original way and the articles themselves should not exceed 10 typewritten pages in length. The Author, got his reward, makes over his exclusive article right to Rivista Militare, Rivista Militare can make over Author's exclusive article right to other publications and to the periodicals of EMPA (European Military Press Agency). The articles should be accompanied by the necessary photographs, drawings and explanatory tables. Each Author is requested to send a photograph of himself, together with his "curriculum vitae" and a 10-line summary of the article to be published. Rivista Militare reserves the right to alter the article's title and to choose the typeface in which it is set.

© 1988

Proprietà letteraria artistica
e scientifica riservata



Member of USP
Unione Stampa
Periodica Italiana

THE OBJECTIVES OF THE ARMY FOR 1988



The efficiency of a many-sided and complex institution as the Army is, cannot in any way exclude the convinced participation of all its members in order to achieve its targets in the various sectors.

Hence the decision to issue, at the beginning of this year, this directive that will be a common reference for the Cadres in the course of 1988.

I am actually convinced that the preliminary knowledge of the main objectives of the Army for 1988 will produce a better unity of purpose and a greater discipline of intellects, which will positively influence our cohesion, initiative and readiness.

This is all the more necessary in a period like the present one, when the Army is engaged in a wide activity of structural reorganization and modernization, in order to effectively meet the **human, technological and doctrinal challenges of the next century.**

All this without discursive digressions, in strict compliance with the task assigned to us by our country, and confining ourselves within the limits of the available resources.

The General Staffs and Headquarters — however involved in the organization, set up, supply, support, training and employment of the military instrument — have answered, and still answer, remarkably well, showing unquestionable clairvoyance, capability of planning and a clear idea of the requirements of the units. The latter, for their part — with an exemplary behaviour, confronting with success the not negligible organizational and environmental difficulties — have confirmed the validity of a system which relies upon the constant and intelligent participation of the servicemen, conscripts and volunteers alike, no less than upon the enthusiastic and expert leadership of professionally well-trained and motivated Cadres.

But certainly we have more road to travel and it could not be otherwise.

Therefore, through a synthesis of serene and conscious participation, each

one of us should feel called to a direct and personal commitment, so that the institutional goals established by law and the operational targets of the structures — which we determined by laboriously trying to match them with the tasks entrusted to us — be achieved more and more effectively without overlooking the need to improve as much as possible the standard of living and of service of our personnel.

Skipping the subjects that will be examined later, I wish to draw the attention on what are, and will remain, the cardinal points of our action: **training and security.**

Each unit should lay the foundations of its reality and credibility on the enhancement of **training**, a fact which undoubtedly translates into functionality and efficiency.

This emphasis on training ensures, moreover, a constant reactivity — understood as a capability to face promptly any kind of emergency — and is therefore the chief reason for carrying out with dignity the onerous tasks assigned to us.

Training is closely connected with **security** — the former being simultaneously a prerequisite and a consequence of the latter.

The physical safety of the personnel in our care must be safeguarded not only through a scrupulous organization and an accurate control, but also by ensuring that the men have a good knowledge of the weapons, equipment and materials in use from the standpoint of performance and employment, as well as knowledge of the technical and tactical operational aspects, so that nothing be left to chance and improvisation.

I am sure that the Cadres of the Army are sharing without reserve the spirit and goals of this directive as regards participation, consent and generous, coherent commitment of energy and intellect.

I feel sure, moreover, that everybody will devote his

utmost diligence and good will to the full achievement of these objectives.

FINANCIAL PLANNING

Expense policy

Lately the Army has been trying to rationalize the expenses with the ultimate purpose of increasing the ratio between investment and working expenses.

In 1988 this trend should be confirmed at the central level as well as at the peripheral level, where the working expenses undergo the highest increase.

Each Command must feel committed to attain this specific goal through a careful planning of its requirements and, at the executive stage, through a meticulous control of the progression of the expenses.

Confirmation of the procedures concerning the planning and control of the decentralized expenses.

The second edition of Circular no. 6000 "Financial Planning and Decentralized Spending of the Funds for Working Expenses" was issued in 1987.

The directive, which establishes the procedures and methods of control regarding the decentralized expenses, shall have to be fully and scrupulously implemented, in order to achieve a coordination of the financial planning as regards the activities concerning the statement and balance of the budget as well as the determination of a funding plan.

We should ensure a close connection between all financial bodies involved in these activities at central and peripheral level, in order to harmonize the planning of the appropriations, determine the use of the reserves for the various items, making a rational use of all the available funds.

SIE/16 and Automated Cost System (SAC)

The Army General Staff has established an information



support element consisting of an automated system for the management of planning information (SIE/16) and an Automated Cost System (SAC).

In 1988 the information system will become fully operational in order to improve the entire planning system and to promote and enhance the "culture of planning" among the Cadres.

ORGANIZATION

Availability of troops

According to the reorganization started in 1986, in 1988 the Army will have to reduce its balanced strength by a further 4000 men.

This objective will be achieved through:

- continued work aimed at streamlining the structures at every level and in every sector;
- creation of the preconditions for the timely implementation of the planned provisions which — as is well known — in 1988 concern mostly the logistic-administrative organization.

Operational forces

We must continue the strengthening of the operational structures and of the tactical-logistic support structures as defined by the reorganization guidelines.

Insofar as the availability of personnel allows and together with the introduction of new means and materials, it will also be possible to start introducing by degrees the innovations suggested by the study on the new typology of the Brigades.

Training and school organization

Also in this sector, the fundamental objective will be a better employment of resources (especially as regards the Branch and Specialization Schools).

This entails a review of the Schools' structures, starting from those charged with the training of personnel for the armoured units.

In connection with the Recruit Training Battalions, we shall have to complete the adoption of the new, recently confirmed setup, at all events avoiding supplementary assignments of troops, no more compatible with the reduced availability of resources.

Conscription-recruitment

In 1988, a fundamental step in the renovation of this sector will be made, with the implementation of the new recruitment procedures, already experimented in the Northwestern Military Region and in the Military Region of Sardinia, and — upon confirmation of the expected positive results — the extension of the procedure to the other Military Regions.

At the same time and in agreement with the General Directorate for Conscription, Militarization, Recruitment, Civilian Mobilization and Auxiliary Corps (which in its turn is on the way of reducing the number of the Conscription Councils) the next objectives will be:

- a further improvement of the selective process;
- start of automated conscription-selection activities.

All the above activities will be carried out within the existent structures, which will be reviewed and gradually adapted to their actual functions and burdens (especially the Selection Groups and the Military Districts).

Mobilization

The "mobilization" establishment will be further developed, particularly in the sectors of logistic support, replacement of losses and of emergency training.

The operational structures defined in 1987 will be put into practice through a mobilization exercise at Brigade level.

EMPLOYMENT OF PERSONNEL

Officers and non-commissioned Officers

The process of adjusting the establishment levels to the actual availability allowed by law will continue through 1988.

Meanwhile we shall have to pursue the objective of optimizing the employment of the Cadres by envisaging:

- for senior officers, a gradual improvement of their employment, giving priority to their service as battalion commanders;
- for junior officers, "gravitation" on command assignments at platoon and company/troop level;
- for NCOs, service within their specialization, giving high priority to the requirements of the operational units, limiting the changes of specialization only to absolutely necessary cases.

Conscript personnel

The correct employment of the conscript personnel is always an indispensable precondition for maintaining at the established levels the operativeness and performance of the Units, Commands and Bodies of the Army.

It is an unavoidable necessity, especially considering the envisaged reduction of balanced strength and the population decrease which will occur as from 1990.

In this perspective it becomes imperative to scrupulously comply with the norms which regulate the specific matter. Particularly the "local" variation in the scheduling of the conscript contingents will have to be limited to those indispensable to cope with unpredictable events.

In 1988, after experimentation at four elementary Major Units, we plan to assign the military tasks according to the new system of "employment brackets" which, being based on updated personal parameters, will enable the Battalion Commanders to



make their action more incisive and immediate, by determining which of each soldier's individual characteristics are more in line with the requirements of the unit at that moment.

Extended-service volunteers

Due to technical and financial reasons, in 1988 the objective permitted by Law no. 958/1986 will be achieved through the incorporation of no more than 19,000 volunteers, to be employed in fifty specialized jobs of prevalingly technico-logistic contents. In order to promote this new form of recruitment, we must intensify the promotion activity already under way, especially within the battalions, making sure that all personnel know the opportunities offered by the extended terms of service.

With regard to this, we must not forget that the recruitment of volunteers among the young men already in service could be a spur for the recruitment of those coming directly from civilian life.

WELFARE

Employment of the financial resources

The use of the funds appropriated for the "welfare" of personnel must be held as one of the chief activities of the command action, because it affects directly the management of personnel.

It must be aimed at:

- strengthening the organizations which promote the aggregation of personnel and are a reference point for the social relations with the civilian sphere;
- encouraging the socio-recreational activities and the initiatives which raise the cultural standard.

To this end, the employment of the resources available for the financial year 1988 will have the purpose of:

- completing the development programmes of the period 1985-1987 concerning the establishment of recreational structures for TV, cinema and music, as well as parlours for the reception of families;
- starting specific "local" programmes, aimed at setting up centres devoted to physical training and to the development of basic and competitive sports activities;
- intervening with "ad hoc" provisions having the purpose of raising all the extra-budgetary organizations to an equal standard of efficiency and performance, through a constant control of the results obtained with the funds employed.

Admission of the extended-term volunteers into the working force. The employment Agency.

Law no. 958/1986, as regards the section concerning the admission of the military into the working force, will prove its validity provided that the Commands, especially the highest ones, develop a diffuse and timely informative action addressed to the interested category. In this connection, the linkage with the Agency operating within the General Staff of the Army is essential.

Housing

It is a sector of preeminent social interest, which in the past years has acquired a particular prominence owing to the difficulty to find suitable lodgings at reasonable prices, especially in the large towns.

This difficulty and the lack of service housing have an unfavourable impact on the mobility of personnel.

Therefore, in order to utilize the existing availability as best as possible and, at the same time, find more immediate solutions in addition to the specific legislative initiative already in progress, we should:

- comply with Law no. 497/1978 and the relevant "Regulations for the Armed Forces Service Housing", especially with regard to "Intimations of revocation of use for termination of entitlement" in order to promote

the "rotation" of the personnel who make use of the facilities;

- investigate about the possibility to rent apartments at controlled rates to the military, through accords and arrangements with social security institutes which operate in the building sector;
- encourage the constitution of cooperatives among the military, also through agreements with the local Administrations, according to the "protocol of understanding" between military and civilian institutions for the concession of building areas.

Support on the occasion of military ceremonies

Request for support, especially as regards military bands and roads transportations, are submitted in great numbers, so much so that a careful work of evaluation and selection becomes necessary, in order to prevent these activities from having an overproportionate weight on the overall activities of the units.

Within this framework, the Military Regions and Army Corps Commands will have to scrupulously comply with the provisions in force, referring to the evaluation of the appropriate Central Authorities the proposals of participation presented directly by Service and Veterans' Associations or by public and private organizations, giving at the same time all necessary information.

Especially at local level, it is necessary to resist the tendency to "promise" without waiting for the examination by the appropriate Authorities, who have the responsibility to decide the total or partial grant of the requested participation.

HEALTH PROTECTION AND PREVENTION OF ACCIDENTS

Enhancement of the psycho-physical screening on incorporation

At the Recruit Training Battalions (BAR) more careful health screenings have been



envisaged. These are accomplished through an increase of the medical staff and the supply of adequate medical equipment.

To avoid nullifying the established measures, the Heads of the Health Services of each Military Region must exercise an in-depth action of control in order to ensure that:

- the medical examinations are carried out with the utmost care, requesting, if necessary, the temporary assistance of specialists from the nearest Military Hospitals;
- the repetition of the personality tests, which have been carried out experimentally since January 1st, 1988 at 12 "pilot" battalions, is organized in detail and conducted in close cooperation with the medico-legal bodies of the hospital structures in charge of the particular "users' zone".

Improvement of the Medical service at unit level

In order to achieve the reorganization of the Medical Corps, we should make sure that the Infirmarys of the units are in a position to perform their duties appropriately. Failing this, there would be a perpetuation of the difficulties presently afflicting the hospital structures which are overburdened by work. To this end, the medical equipment has been improved and a Medical Corps captain in regular service is assigned, upon completion of the Academy, to every Brigade, for a compulsory term of at least two years. This while waiting for the reorganization of personnel — doctors and medics — provided for by a Bill still before Parliament.

In this perspective, it is indispensable to ensure:

- the upgrading of the Infirmarys of the units, as regards infrastructure and medical equipment;
- a meticulous action of control by the Commanders and by the medical organs at the next higher level.

Bolstering of the medico-legal activities

Admission to and treatment within the hospital structures

The new functional configuration of the hospitals is based, *inter alia*, on a separation of the medico-legal activities from the admission and treatment ones, as well as the enhancement of the specialistic capabilities of some of the hospitals which have been upgraded to General Hospitals.

At the present delicate stage of take-off, in which preexistent structures coexist with others shaped according to the new functional standards, the following becomes indispensable:

- strict compliance with the norms regarding the attributions and the areas assigned to each hospital, issued experimentally, awaiting the revision of the Regulations on the Territorial Military Health Service;
- constant guiding and controlling action by the command and management Authorities of the Medical Service, aimed at ensuring a full operativeness of the hospital structures, also through special arrangements with civilian doctors;
- increased employment of volunteer nurses of the Italian Red Cross and of conscripts already qualified as civilian professional nurses, in order to balance the present lack of Medical NCOs.

PREVENTION OF ACCIDENTS AND HYGIENE

Measures aimed at reshaping the sector are under way, especially as regards the functional capacity of the organization, regulations and training, to ensure a better protection and prevention in the sphere of the physical and psychophysical health of the military and civilian personnel.

Meanwhile, we should:

- encourage the guidance and control activities;
- lay down a programme of

technical and infrastructural interventions as well as a programme dealing with the qualification of personnel and acquisition of specific means and equipment;

- promote the training of the personnel destined to the accident-prevention organization, by means of the envisaged qualification courses;
- upgrade the training of the already qualified personnel through participation in congresses, symposiums and lectures, also sponsored by private or public organizations.

INFORMATION ACTIVITY

In the information sector, the training of the Cadres, (especially those who will be operating at the lower organizational levels) will have to be developed progressively in order to meet in due time all the operational, methodological and technical requirements deriving from the employment of the new technologies.

Therefore, our first goal must be an improvement of the basic training for all officers attending the Application School, through an in-depth study of the information doctrine, in the light of the technological possibilities offered by the new operational instrument.

Our second goal is a thorough study of these problems at the War College by means of a theoretical-practical handling of the systems under development and at planning stage, with particular reference to the decisional systems. At the latter Institute, especially, the critical study of the threat posed to the national territory ought to permit to:

- outline the primary information requirements of the Army in the "Combat Zone" and in connection with the defence of the territory through the employment of automated systems, such as the Transmission and Information Field System (CATRIN) and the Command and Control Automated System (SIACCON);



- develop the students' skills in evaluation and synthesis and help them acquire the characteristics of "information managers".

Besides developing the SIO (Operational Intelligence Service) training during exercises, different specific subjects will be dealt with in conferences and seminars promoted by the two Institutes.

OPERATIONAL PLANNING

Improvements in the planning concerning Territorial Defence

The planning made by the Army General Staff is undergoing a revision in the light of the doctrinal modifications derived from the Service's reorganization.

The Military Regions ought to complete their planning in order to be able to face, in a framework of increased mobility, all of the possible forms of threat and in order to direct the training of the territorial units towards their specific employment.

Aspects of the operational planning

The Army General Staff and the SETAF Headquarters will have to learn operational lessons from the exercises carried out. This knowledge will then help defining the manoeuvre outline in the theatre, also considering the new typology of supports.

Information and television supports of COSME

The informative supports of the Operational Centre of the Army General Staff will supply situation data from the peripheral commands and permit to manage any kind of intervention, by "displaying" the various situations. Moreover, within this framework, a television connection will be established between the Units engaged in exercises or in the assistance of populations hit by

natural calamities. This television link has already been tested during "Display Determination 87" and during the emergency in the Valtellina region.

Security

The publication "Infrastructure and Aircraft Security, Protection and Safekeeping of Weapons, Ammunition, Explosives, Mines and Transmission Equipment" will have to be updated, keeping in mind the need to cut down the expenses related to the surveillance services.

LOGISTIC SUPPORT

Increase in efficiency and productivity of the 1st and 2nd level support organs.

The operativeness and performance of the logistic support organs of the 1st and 2nd level are factors which affect the upkeeping of the vehicles and materials of the Units. With regard to this, specific improving provisions will be issued, following the results emerging from a survey being carried out.

Already at this point we must pay particular attention to the:

- correct employment of the qualified personnel according to their specializations, avoiding to turn them to other jobs. Doing this would produce a piling-up of inefficiencies which, if not promptly repaired, would require the intervention of the 3rd and 4th level organs with their ensuing functional paralysis and prolonged unavailability of the materials;
- scrupulous application of the management specifications, especially as regards preventive maintenance and corrective interventions, avoiding repairs not envisaged by the instructions, which often jeopardize the materials' reliability for good;
- implementation of the new form of logistic support for the materials with optoelectronic components based, especially at

2nd level, on a Weapons and Optoelectronics Platoon with its own capability of intervention;

- upgrading of the workshops, in order to ensure their functionality and compliance with the security standards.

Rationalization of the 3rd and 4th level executive organs

The organization of the support logistics will have to assume a more streamlined and functional configuration based, within each Military Region:

- for the maintenance component, on one or two Army Repair Workshops (three in the NW Military Region), in a position to assume the characters of general-repair units;
- for supplies, on a Multiservice Supply Centre and on one or two Delivery Agencies, capable of supplying the operational Units with means and materials pertaining to all services.

The measures already taken concern at first (1988-1989) the abolition of some 3rd and 4th level organs of the Transport and Material Branch and, after that, the implementation of the "Multiservice Supply Centre".

This particularly delicate moment demands that commanders and directors keep a close watch over the reorganization programme, to prevent disfunctions through the entire logistic system.

Moreover, the Military Region Commands ought to do their best to improve the precarious conditions of the personnel of the various Army Branches, serving with the executive bodies of the Transport and Material Branch, whose levels of efficiency directly affect the performance of the operational Units.

Elimination of unserviceable materials

The progressive accumulation of considerable amounts of obsolete materials at the 3rd level organs and at the operational Units, has caused congestions in the depots and covered areas which impair the living and sanitary conditions of the enlisted men,



the efficiency of the vehicle and artillery parks, exposed to atmospheric agents, and the concrete possibilities to implement the programme of rationalization of the territorial logistic support.

In order to solve this problem, the Military Region Commanders and the Unit/Detachment Commanders (battalion included) have been allowed to dispose of certain materials according to the "economy system", within the respective expense limits and without further authorization from the General Directorates. Moreover, an interservice "Compendium" is being issued which, in dealing with the disposal of obsolete materials, introduces unified, simpler and swifter procedures.

In connection with the new possibilities provided by the mentioned operational instruments, it is necessary to speed up the disposals by developing, especially at Unit/Detachment Commander level, a constant and resolute action of sensibilization along the chain of command, as well as an action of guide and control on the technico-functional plane by the Heads of the Logistic Services.

TRANSPORT

The increased mobility of the Units, with the growing use of transportation — with both military and commercial vehicles — to meet logistic and training requirements, demands accurate control in order to optimize the vehicles' employment.

In relation to this situation, to avoid that the considerable increase of the needs should negatively affect the management of the vehicles and therefore the service for the Units, it is indispensable to improve and update the present working procedures by:

- working out, within the month of October of each year, a

yearly transportation plan as detailed as possible;

- adopting, at central and peripheral level, automated programmes which — at central level and in real time — permit to update and transmit the requirements, always through automated channels, to the Organizations tasked with the management of the various commercial vehicles.

The Military Region and Corps Commands, in planning the transports for which they are responsible, should adopt the less expensive and safest type of transport, according to the Units' needs and to the contingent conditions of traffic and environment.

INFRASTRUCTURE

The size of the appropriations for 1988 will be practically the same as those for 1987, already cut down as a consequence of the self-financing enjoined by Law no. 958/1986.

This budget limitation demands choices focused on the sectors of primary importance, with a prudent employment of the available resources.

Consequently, the selected interventions should concern:

- improvement of the personnel's living conditions (upgrading of housing standards, renovation of the technological equipment, sport and recreation structures, etc.);
- prevention of accidents, in order to carry out the technico-logistical activities in a safe environment;
- adoption, according to the already issued directives, of security systems capable of reducing the guard burden of the military personnel;
- medical facilities, according to a wide programme of functional and infrastructural renovation of the entire sector, coordinated at central level.

To this end, all Commands should draw up the planning schemes of the barracks in a concrete and realistic way.

All infrastructural

interventions should be carried out in accordance with the schemes already approved or about to be approved.

The Commanders will have to pay particular attention to the following:

- efficient and constant maintenance of structures and facilities, in full compliance with the existing strict norms;
- employment of the decentralized funds according to programmes established at the beginning of the financial year and, in any case, according to the standards of a shrewd management.

AUTOMATED DATA PROCESSING

Our main goals for 1988 are as follows:

- Territorial area;
 - establish integrated Data Banks at the Military Region Commands;
 - complete the automation of the Conscription, Recruitment, Mobilization Directorates, Administrations Directorates, Commissariat Directorates, Pension Centres, Zone Military Commands, Military Hospitals, as well as of the 3rd and 4th level logistic organs;
 - continue the current experimentation at the Regional and Provincial Military Districts.
- Operational area of the Major Units: complete the automation at battalion level;
- school area: start the computerization systems at the Military Schools and Institutes;
- Army ADP sector:
 - establish the national Data Transmission Network, in order to link all the users of the Army Information System;
 - continue the training and specialization programme for the personnel assigned to the Data Processing Sector, to obtain Officers and NCOs expert in the employment of automated systems at all levels.

Moreover, we shall have to boost the training of personnel in the new technologies soon to be introduced in the Army, in view of the realization of the CATRIN and SIACCON projects.



PROMOTIONAL ACTIVITIES

The Image

The image-promoting campaign started in 1987 will continue with a view to clearing the mind of public opinion, within the first semester, as regards military problems.

This short-term goal will be followed by information and public relations activities aimed at establishing a lasting, positive image of the Army.

In order to attain these targets, special attention must be given to the spheres of institutional activities more liable to criticism and exploitation or, more generally, likely to rouse the interest of public opinion, such as:

- conscription: malfunctions in the selection or in the approaches between the young and the Conscription Boards, the Military Hospitals and the Military Districts;
- recruitment: delays in the incorporation, suspensions of the call-up, short notice of call-up, problems related to the conscientious objectors issue;
- official records: difficulties with certifications;
- barracks life: boredom, nasty practical jokes; infections, diseases, accidents, assignments to unsuitable jobs;
- training: training deficiencies, shooting ranges and military services;
- personnel: wages, moral issues, wrongdoings.

The communication project just started intends to promote, through appropriate actions involving the media (periodical meetings, diffusion of booklets, etc.), a correct knowledge of the facts and fair comments on them. As regards the "inside", the "sensitive" issue mentioned above will be brought to the attention of the Unit commanders and will also be the subject of lectures at the War College, at the Courses for Battalion Commanders and for Commanders of Military Districts.

Geronimo Cenatiempo: Episode of a battle near the drawbridge of a besieged citadel.

The success of "operation image" cannot be produced exclusively by "communication" actions, but these will nevertheless improve the necessary relationship with the citizens and, finally, will also have a beneficial spin-off on the enlistments, which will be especially advertised in the periods of civil-service entrance exams and priority recruitments.

Enlistments

The extended-term enlistments will have first priority. A phase of mass vocational promotion, which will enable the Army to meet the needs for 1987 and the first months of 1988, will be followed by a promotional activity within the Units, in order to maintain a full operational efficiency with qualitatively irreprehensible personnel. Particular attention will be given to the media and to all possible initiatives involving Military Districts, Recruit Training Battalions and Operational Units.

Keeping the volunteers sector in constant good supply will have to be, first of all, a qualifying parameter of the command action and then the target of our promotion towards the exterior.

The advertisement of the entrance exams at the Military Academy and the NCOs School will strive to keep the present ratio (13:1) applications/available spaces.

A more targeted action, especially through the adoption of the "direct mailing" methods, will be carried out in relation to the admission to the Joint Medical Academy and Technical Corps.

Promotional relations

The relationship with the Schools, traditionally developed through information-promotion channels (students' visits, diaries, calendars, advertising material) and sports channels (Army-School) will be reconsidered with a view to finding new forms enabling us

to keep the present engagements with a better cost/effectiveness ratio.

The same criteria will be adopted vis-à-vis the cooperation with the sports federations, establishing fair levels of employment, proportional to the interest roused by the supported events.

CONCLUSIONS

In the handful of years that separate us from 2000, the Army has undertaken to do away with the deficiencies and delays that still prevent the best employment of men and resources.

Our distinctive goal is to obtain the best organization of the Service, according to its tasks and to the social and financial environment in which it has to work.

This is a comprehensive mosaic made up by many small tesserae, every one of which represents a precise objective that must be known and attained, year after year, if we want to see the pattern acquire its accomplished form.

The objectives for 1988, pointed out in the directive, are undoubtedly within our reach, we only need to pursue them, as I said in my opening words, with conscious and determined participation.

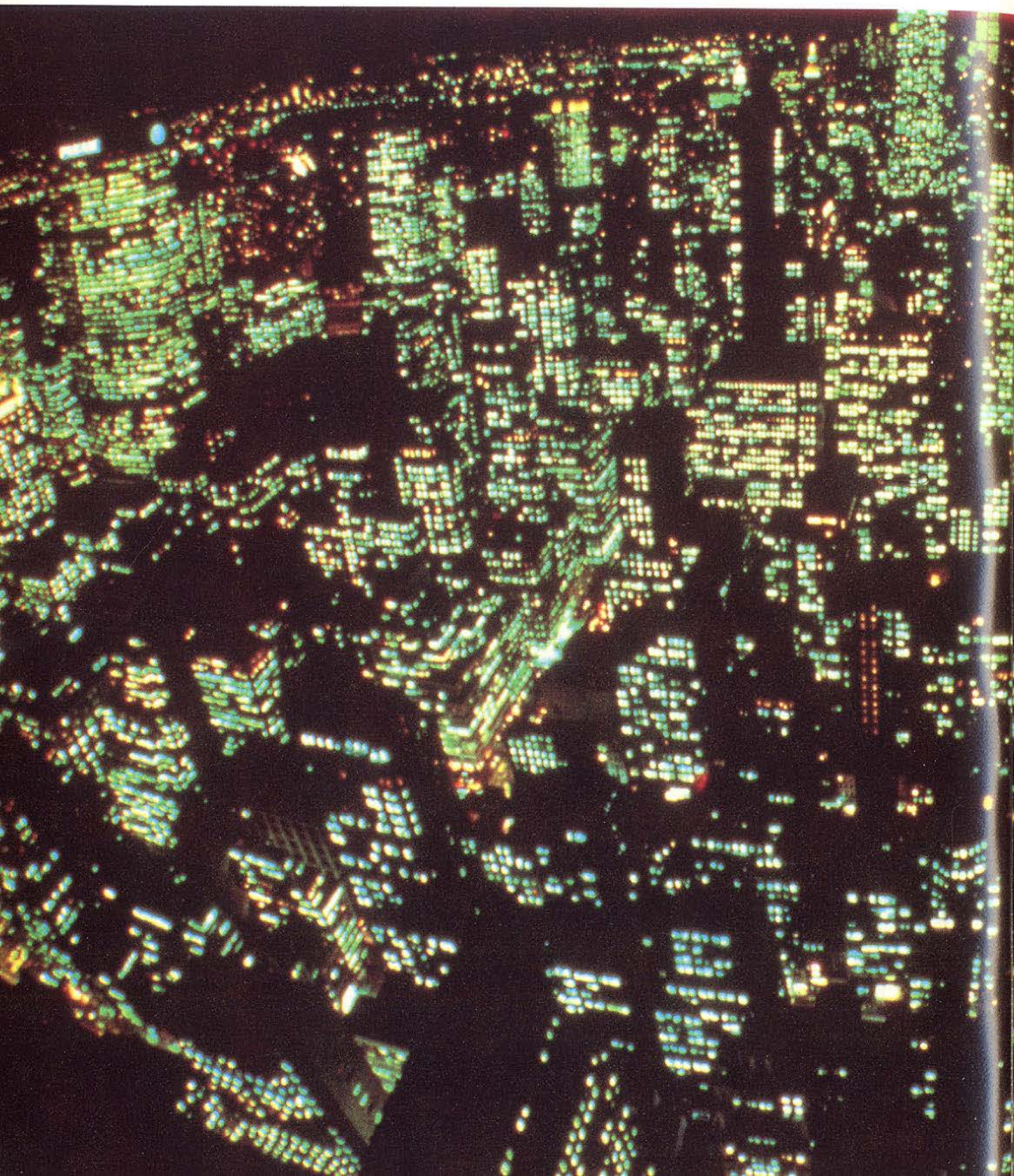
From the clear vision of the higher interests of an Institution which finds — as ours does — its fundamental motivations in ethical calls that cannot be ignored and in concrete social goals will spring, despite the difficulties and disappointments that sometimes mark its path, the conditions of an increased prestige for the Army within the State and the national community.

In this sense, I am fully confident that the true commitment of each one of us will produce results that in future times could be considered downright surprising.

Gen. Ciro Di Martino

Gen. Ciro Di Martino
Army Chief of Staff

ITALY'S OUTLOOK WITHIN THE WORLD ECONOMY



by Romano Prodi





In my opinion world economy as a whole is going neither well nor poorly; it has been going moderately well for some years.

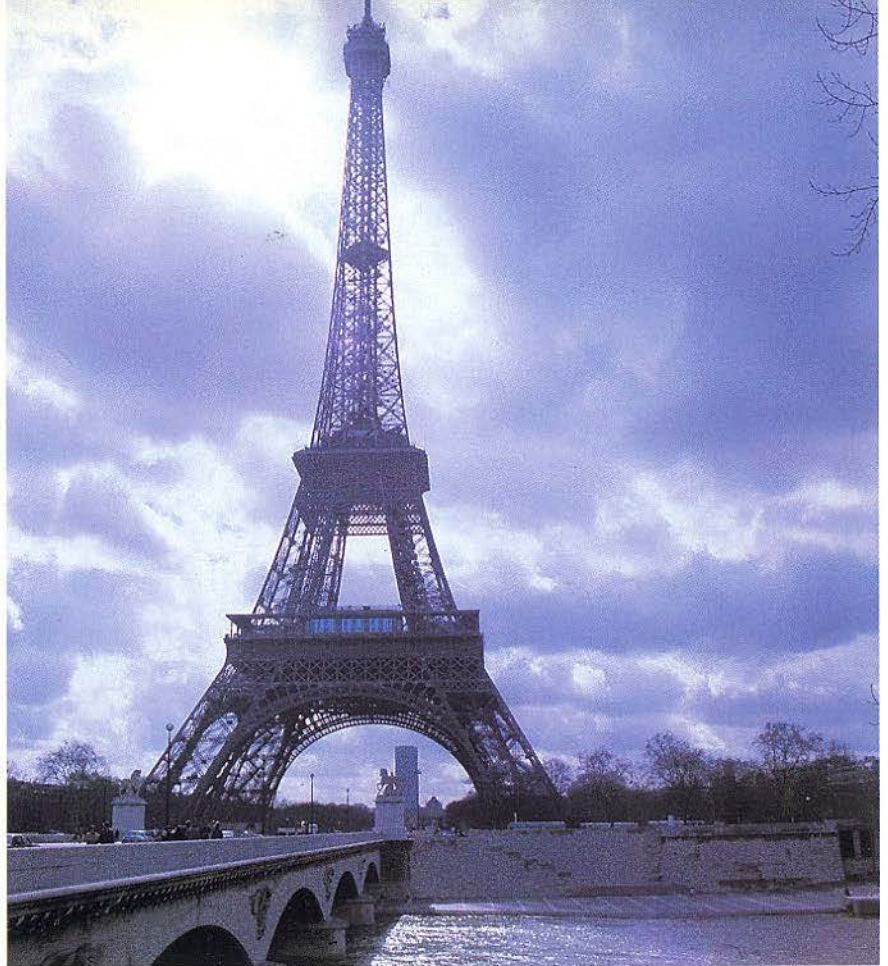
No new disturbing element has been added to those we had in the past but, of course, the past elements have remained as before; in particular, this prevalence, this expansion of a paper economy, which has always been a

worrying fact in the sense that the amount of daily financial transactions has predominated so much over the underlying economic reality that, clearly, the problem of governing and disciplining this type of economy becomes an alarming issue.

Nevertheless, as we have seen lately, the tools available to the governments are very different from those of 1929,

therefore those who confine themselves to this comparison are wrong, precisely because the economy of the world has changed. By now the United States has ceased to be the sole industrial pole: there is Europe, which has reached a level of industrial wealth very close to the American one.

Very often we forget this fact: Europe is an economic phenomenon of impressive



Europe is the greatest economic event of the XX century from the point of view of a joining of economies. It is going very well and shaping up as an economic reality comparable to the American one.

proportions, it is the greatest economic event of the XX century, considered in the light of a joining of economies; Europe is going very well and is shaping up as an economic reality of proportions comparable to the American one.

When I took the chairmanship of IRI, five years ago, Americans and Japanese were the only interlocutors.

In the last three years, new European bonds have been imperatively established which have not become a government act yet, but oftentimes the transformations of a reality occur outside or even against the government acts. Recently, the flourishing of agreements within Europe has become exceptional, i.e. we witness the creation of the so-called European oligopoly and the

emergence of the concerns that will dominate the European market of tomorrow.

There are numerous exchanges and agreements and everyone considers especially the aspects that interest him most, but the truth is that we have lived through a generation, that of the European Union, in the first phase of which no multinational European enterprises were born.



Precisely because of Europe's birth, each country was inclined to strengthen its home industries, in order to be prepared to fight in the international context. This is noteworthy, because otherwise one cannot explain why during an entire generation of European Community no communitary multinational enterprise was established.

All the big European multinational concerns, Siemens, Unilever, Michelin, Royal Dutch Shell and the other major companies were born during the Fascist or Nazi times, or even earlier.

The leaders of China are realizing that, as the country's wealth changes, the Institutions must be adjusted to it.

Why during the period of the European Community we can count only Agfa-Gevaert? The European Community was born and each country followed a Gaullist policy, i.e. it reincorporated and reorganized

the national forces, in order to counter the competition.

The first phase ended three years ago and the second has started, quickly and in real earnest, and fortunately we Italians take part in these

activities.

FIAT, the De Benedetti, Berlusconi and Gardini groups, the state concerns: suddenly we all have changed our tune and understood that Italy is a limited market and he who confines himself only to Italy is finished.

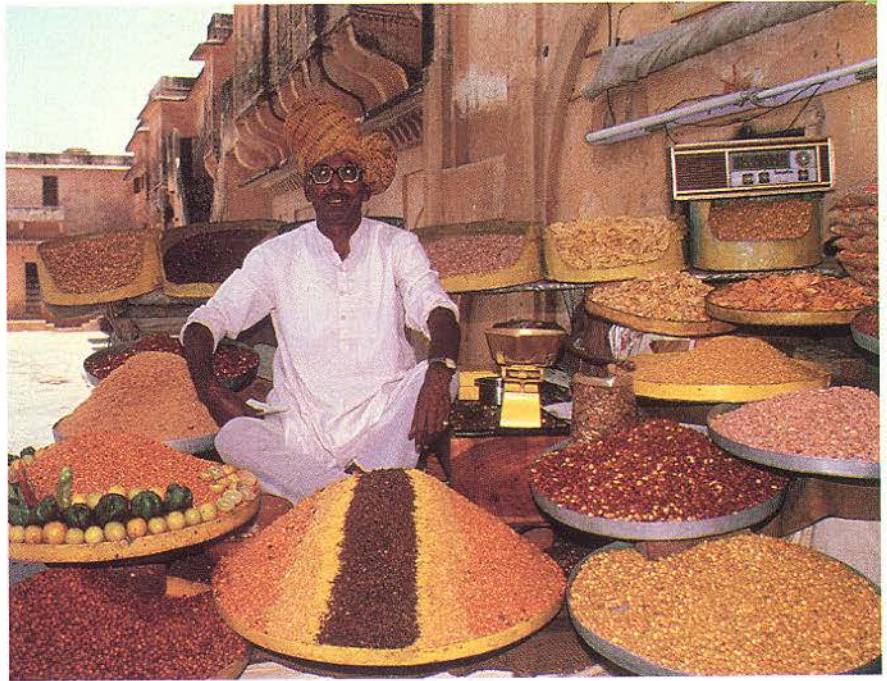
This is an important reality, but is a reality which is changing the nature of all enterprises, including the small and medium ones.

In the past the families, the industrialists, had their portfolios diversified in three or four sectors; afterwards they realized that, in this age of sudden global market, one must be strong in one direction, be incisive in that direction, join forces. Here we would also mention the old strategy textbooks about "front breakthrough", because there is a situation of mobility and a situation of risk.

Suddenly we see that the world has become a global market with forces that are not only American; therefore there is on one side the paper economy, as we have seen, the dangerousness of which I have often pointed out in my writings, but on the other side there is an economic structure, much more flexible than the preceding one. But one must be careful to avoid making the mistakes that are typical of the good-hearted: in life most errors are motivated by malice but a remarkable number of them are also motivated by a sympathetic heart.

We have underestimated the importance of the Third World (where new events are developing at last) in the world economy. They are still in embryo, we see them taking a faint shape but do not see them realized; nevertheless I am certain that in a generation's time China and India will become an important pole for mankind. Four or five years ago I wouldn't have been so sure about that.

The leaders of China are realizing that, as the country's wealth changes, the Institutions must be adjusted to it. This is



India consists of about six hundred million people who have become self-sufficient in food, as can be said for the whole of Asia.

a phenomenon of great shrewdness and China, at the Chinese Communist Party Congress, has dealt primarily with the economic issue; it is a remarkable occurrence, because we refer to one billion people, quantitatively twice as much as the population of Europe and the United States together.

India consists of about six hundred million people who have become self-sufficient in food, as can be said for the whole of Asia.

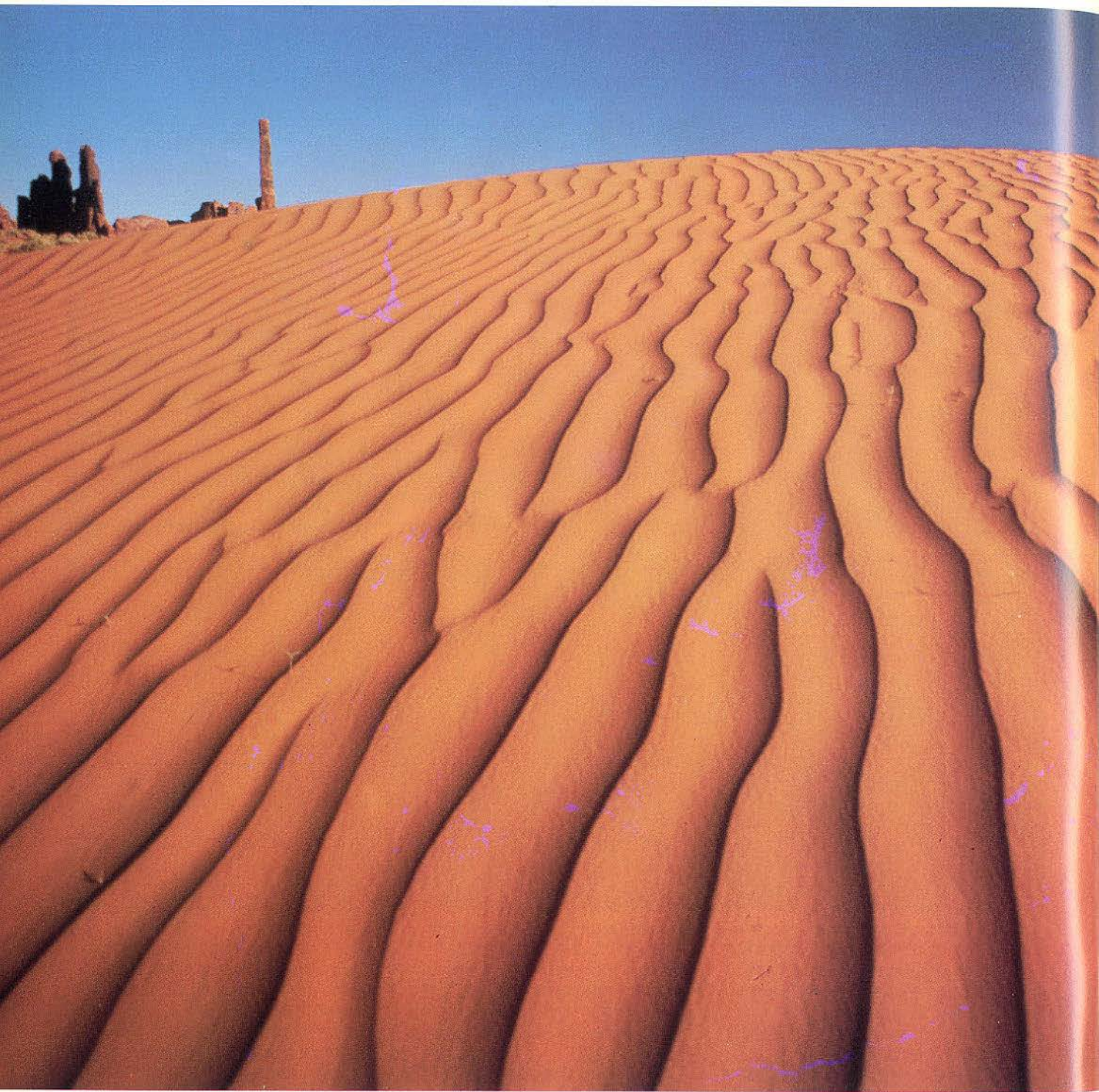
How can this be consistent with the fact that the Indians are starving? It is a question of internal distribution, of man's ill will; but surely the food is sufficient, so much so, that after three years of active monsoons that country has not imported food. This means that the self-sufficiency revolution has been made and won in Asia; won, that is, by two and a half billion people.

We are speaking of half of the entire world and therefore I am not going to say that if we Italians, fifty-six million inhabitants, were to invade China could stay all in one hotel, as the old joke goes, but we have a role proportioned to our number.

The sense of the European Community is precisely this: three hundred million inhabitants with a high standard of development are a different reality compared with fifty-six million.

That is why I insist on the importance of Europe; by now it is impossible to go back, because in the face of the things necessary for survival the peoples have a very fine animal instinct, they know very well that if they were to recede from "Europe", everything would be finished: one criticizes it but this is far from rejecting it!

The other change in the



world is the rushing-in of the new economies. Of course with this we do not want to maintain that everything is well, because there is a good part of Africa, almost all of it, which is practically undergoing a regression. It is a continent below the levels of subsistence, it has numerous deaths due to

malnutrition. Why? We ask, because this continent has a good population-resources ratio; there are less inhabitants on a greater extension of territory.

Africa is torn by tribal wars, the sense of the state has never developed, the community-life structures are so strikingly elementary that

prevent the economy from performing even a modest role of development. Just consider the absurdity of the economic collapse of the African countries following the end of colonialism, against all principles of emancipation of the peoples.

I think of a recent journey

to Mozambique, a real Garden of Eden: a territory three times Italy's, twelve million inhabitants, rivers, an ideal climate... still, people are starving. Why? Because the various tribes are perennially fighting each other and the state structure does not allow any kind of development. Similarly, a number of other African countries find themselves in a political tragedy.

Some of these situations apply also to countries of Latin America, although they are not as serious as in the African continent; many countries, nevertheless, are in worrying recessive conditions compared with what their expectations were.

Let's not forget that a generation ago Italians emigrated to Argentina, Chile and Uruguay because the hopes of development there were better than at home. This gives an idea of how important politics are in the management of world economy. That is why it is so important to have a sound government, to have managing capabilities, and this also explains the nervous and disorderly reactions of the financial markets to declarations understood in ways that exceeded their meaning: suddenly, people have felt ungoverned.

The fact that the US and German Treasury Ministers disagree makes people think that serious things are occurring; I would say that this sense of "non government" has been the most important cause of these jolts, because world economy is a blend of peace, technology and government and this is the mixture which is at the foundations of progress.

Clearly the perception in this picture of sudden tensions, even if only verbal ones, produces serious repercussions and instability.

The new Stock tradings envisage an automatic reinsurance by the brokers; they, being accustomed to constant uptrends are bound to



In Africa, torn by tribal wars, the sense of the state has never developed.

sell immediately when a downtrend occurs. The bulk of these reinsurances have been fed immediately into computers, owing to which, on appearance of the first signs of sagging, the selling wave has broken loose. I am not saying that it was the computer's fault, but certainly these phenomena of contractual technology must be governed and their employment codified; for this reason, one of the first measures was to shut off the computers and ask for a moment's reflection, a sign of common sense before confirming a decision previously entrusted only to machines.

This is what happened.

In this complicated situation many hierarchies of values have changed. A few years ago I was still very worried about the future of Europe, today I speak about it with greater optimism. This doesn't mean that Europe can compete with Japan's vigorous and prodigious innovation of these last years as regards productivity, but it has shown

signs of recovery, of pride, of willingness to create in cooperation with the partner-countries.

All considered, in this hierarchy one must still list first, from the technological point of view, the United States and Japan, but these are followed by Europe, which is no more a loser by definition; on the contrary, it is much more serious and more capable of facing the future than it was a few years ago.

The situation of our country during these past years can be considered odd, because, here also, one can realize how the economy is deeply linked to phenomena of collective psychology and sense of belonging.

The Italian economy has not been much from the growth standpoint. Our growth-rate has been on the average similar to that of the other European countries, nevertheless there is a lot of talk (justified) about an Italian "revival". Why is there no contradiction in all this?

Why, despite a sluggish growth and a still high level of unemployment, Italy's position is so positively spoken of?

Because, in our country, the attitude towards the economy has greatly changed; forgotten is the mentality of the '70s when it was written and said that the economy was an independent variable and anything could be done.

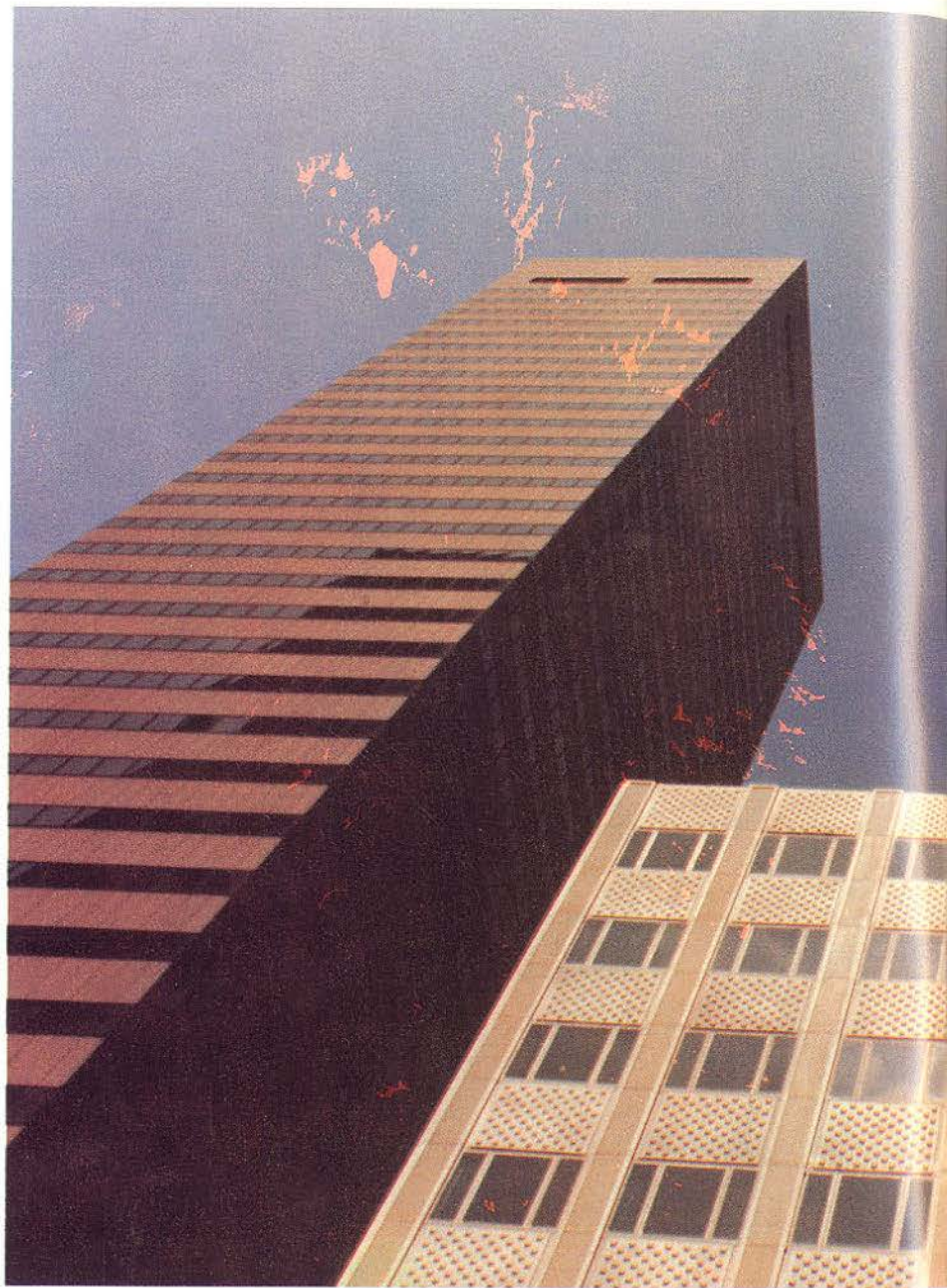
Today these things are neither written nor said anymore.

Suddenly, when we were on the brink of precipice, we developed a collective wisdom which made us understand the things that our elders had been teaching us, made people fearful of losing the numerous advantages acquired during the preceding generation: global transformation of the country, wealth increased five-six times, widespread prosperity — despite the still serious problems of Southern Italy — high level of school attendance.

In Italy there have been very sizeable migrations: during one generation, four and a half million people have migrated from the south to northern Italy, to live there permanently. Sixteen million Italians have left the rural areas and moved to the cities: this has created levels of suffering and tragedy and caused a moment of chaos, and the fear to be unable to understand what was happening.

When a settling occurred, people became aware that they could lose the advantages deriving from this great suffering. Then a change of mentality vis-à-vis the economy came about and we became part of the international economy.

I don't find it hard anymore to explain before our Parliament that the public concern is dead, finished if it remains confined to Italy: but what an effort it took to make them understand that for the Italian economy it can be convenient to make an investment in Munich or in France, in order to permit industries in Milan or Catania to survive!



At last, today there is the feeling of belonging to a great community and also our mentality is adjusting to it, although late and with difficulty, because we were late in attaining the industrial revolution, and abroad this is seen as a rather amazing event.

But there are still problems. In the past years the Japanese have invaded Europe en masse but not a single yen has landed in Italy, because our country still creates preoccupation.

The persistence of the image formed during the '70s

has worked things in such a way that the Japanese — people who always act chorally and need the backing of the entire community before they act — are still hesitant: the community is still perplexed as regards Italy — “the examinations never end” — precisely because of this long parenthesis of diversity.

The Italian miracle of today is that the diversity of the '70s is coming to an end and in our society, vis-à-vis the problems of economy, there is a strong process of homogenization of



values.

There are still deep differences which I observe every day. In these days there has been a wide range of positions regarding the Mediobanca issue but this attitude benefits the physiology of a country; nevertheless, gone are the wide differences which were present ten years ago and we are in a position to build a future for our productive structures, together with the other European countries.

This justifies our greater optimism in comparison with

some years ago, albeit there is still the great anomaly regarding the public expenditure. In the early '70s much credit was given to a wrong interpretation of the Keynesian theories. Keynes was a great economist to whom we owe if there will not be another "1929". Even if extremely negative things are written today about him, he has actually changed the face of the world, while his interpreters have not been very intelligent. Keynes discovered the role of public expenditure, the great

importance of the state. Some, out of demagogy or convenience, thought that there could be an unlimited expansion of the public expenditure without a parallel expansion of the productive reality.

In relation to this I often mention the "Starfighter" as an example: born to carry four missiles, at first it was loaded with six, then the Germans increased the number to twelve. That is why the "Starfighter" was the aircraft most subject to accidents: simply because it had been loaded with more weight than it could carry.

Thus the welfare state is the greatest invention that could be made in the XX century; nevertheless it is sheer folly to think that one can produce ten and consume a hundred.

This anomaly is still existing in Italy, because it is extremely difficult in a democracy to curb the public expenditure when promises have been made and there are expectations. It is so difficult that not even Reagan and Mrs. Thatcher have been able to do it. Comparing the promises made by Reagan after nearly two terms — reduction of taxes, unemployment and government expenditure — with what he has been able to do, it is evident that while the first two points have been fulfilled, the third is still far from a solution.

A modern economy lives on "private and public", on schools, on the Army, the Police, on scientific research, on the Health Service, because if we want all to participate in the process of democracy and in the progress of the country, the State has a very important role: the problem is to discipline the government expenditure, to regulate it, to use the public money as strictly as the private money.

The idea of going back to levels of government intervention equal to those existing during the generation that preceded the second World



A modern economy lives on “private and public”, on schools, on the Army, the Police, on scientific research, on the Health Service.

War is neither a right nor a wrong idea, it is simply impossible.

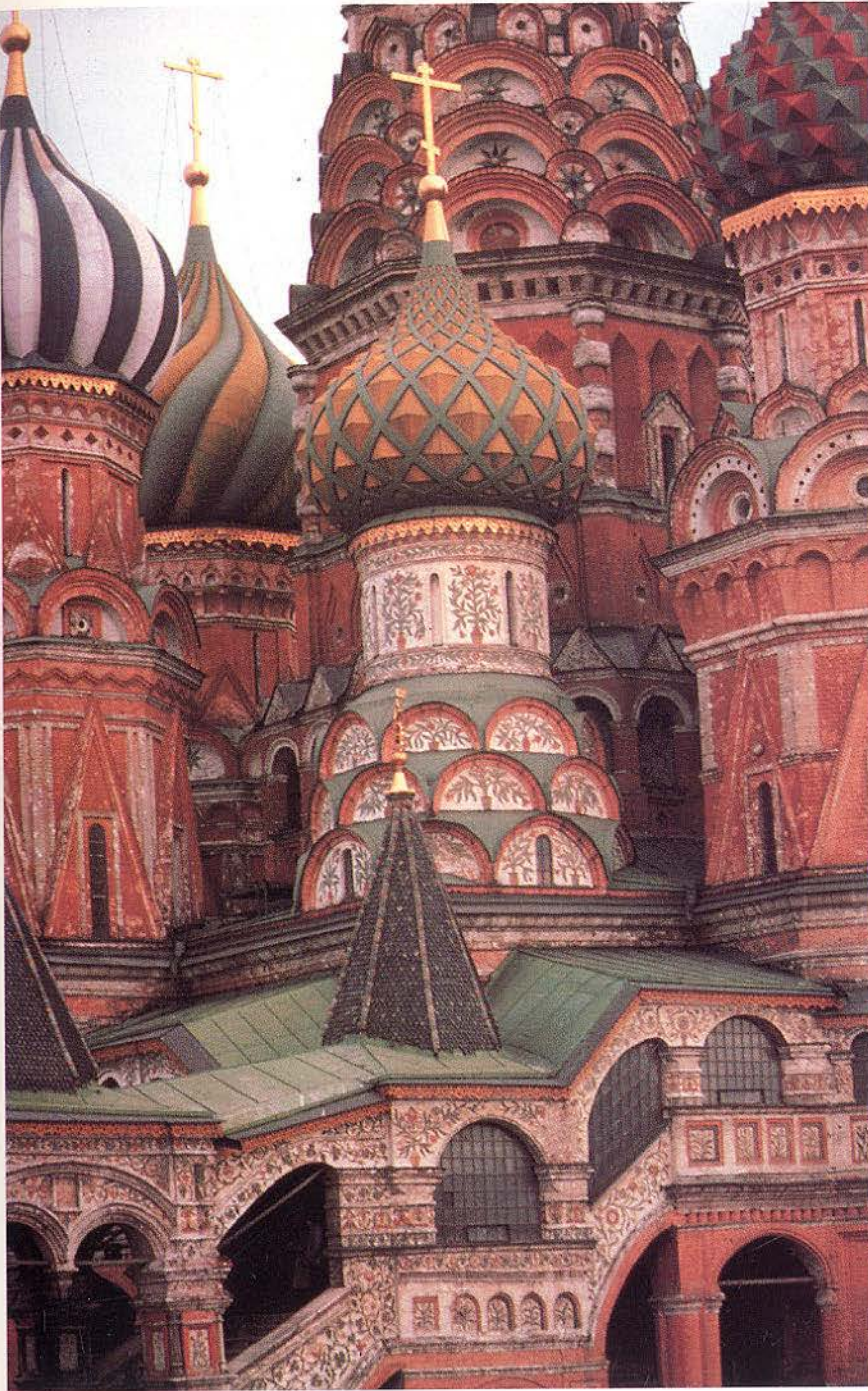
Italy, in the public expenditure, has reached dangerous levels, which can make us lose touch with the other European countries, while we are getting closer with the other figures. The next years won't be easy, because we have seen how difficult it is to reduce the public expenditure: one can prevent it from growing, but it is difficult to make drastic cuts. One should need a period of higher economic growth in order to be able to confirm a certain level

of public expenditure having as a basis, as a denominator, a higher level of economic production. This is not easy because Europe, which has a great future because it has become a true community, is also a satisfied continent, with all the negative aspects that the term “satisfied” implies.

The German Chancellor, the British Prime Minister, do not pursue a conservative policy because they are sinister characters who hate the people, but simply in order to make sure that their people won't lose the prosperity they have attained: Europe “satisfied

continent”, means therefore Europe with a dangerously reduced growth.

Europe, for its future, needs a new frontier which is difficult to point out but it certainly cannot be only confined within its borders. One of the many choices of action which we deem possible but which does not rest with us to make, is an opening of technological and trade exchanges with the Eastern countries and the Soviet Union. We must pay our utmost attention to the ferments in the East, but without playing all our cards in that direction, because the problems of Gorbachev's evolution are difficult to interpret. Two thirds of the Western experts on Soviet problems maintain that Gorbachev will succeed, while one third says the contrary. The existence in the East of as many inhabitants as in the West in need of technology and



Europe, for its future, needs a new frontier which is difficult to point out but it certainly cannot be only confined within its borders.

ready to consume, can permit a leap forward.

A further remark must be made at European level: what I call, oversimplifying, the "Marshall Plan" for the Mediterranean.

Facing us we have countries with enormous economic problems: there is Egypt, which has a formidable political key but a tragic economy; there are Algeria, Tunisia, Syria...

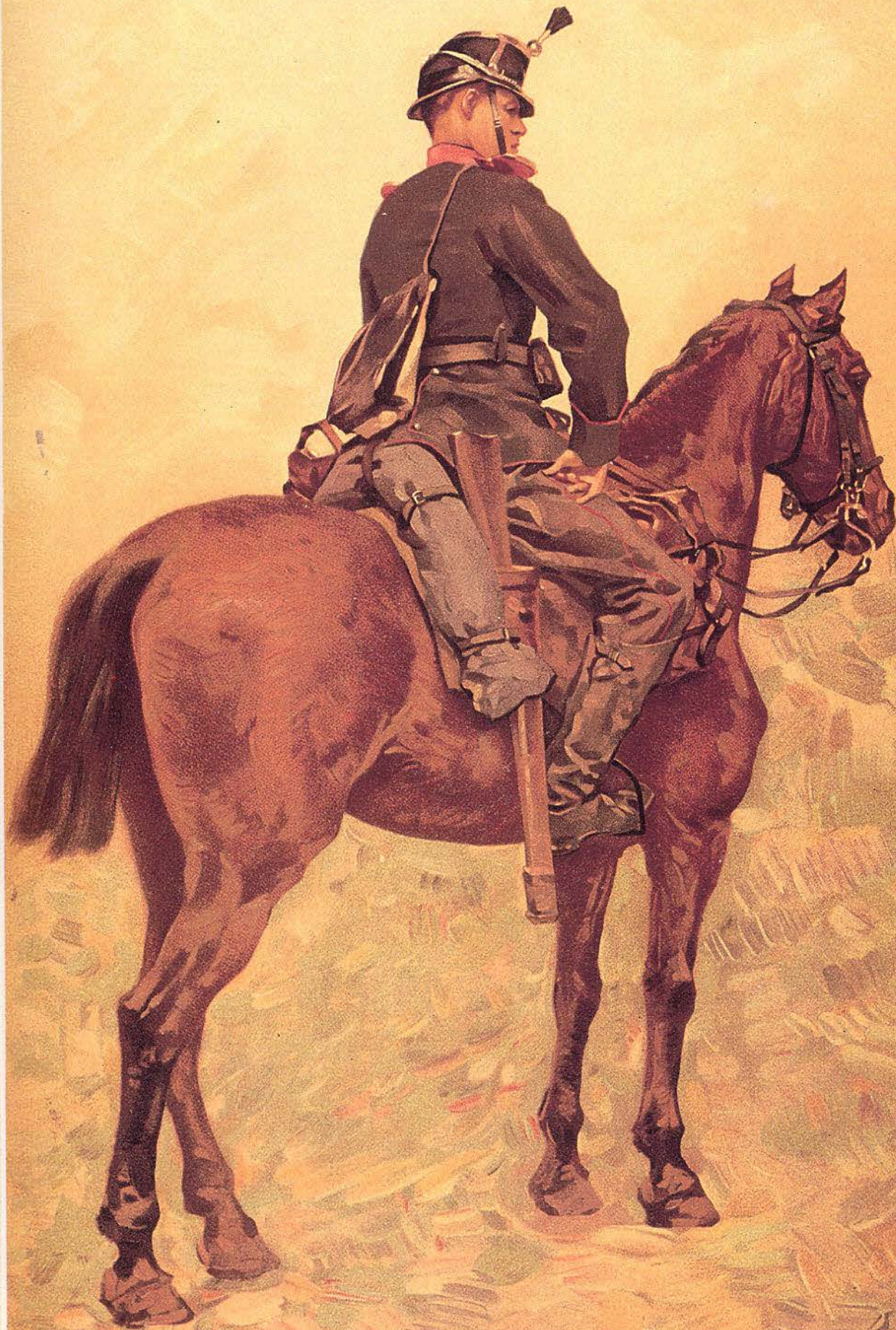
I believe that the "Marshall Plan" for the Mediterranean could be one of the tools for a potential great development for Europe; but also in this regard the European politicians should examine the importance of offering peace objectives but also economic objectives that would serve as a coagulant for the next generation. This "plan" requires a horizon, requires political ability, requires ability to think, requires statesmen, who are a rarity in history. Let's hope that in Europe there will be that coagulant which made men like Adenauer, De Gasperi, Schuman, visionaries then, men who foresaw Europe, today.

I would like to conclude emphasizing that we must have a vision for the future: that of inserting Italy more and more into Europe, but also that of understanding that Europe, if it really wants to remain alive, needs this sense of mission towards its neighbours and the entire world.

I truly believe that the fear I have had for many years that we would become a small periphery in the world of the countries where the inhabitants are counted by hundreds of millions, or in billions, is a little less dramatic: I mean that, albeit in the context of a world so pluralistic, absolutely not centred on Europe, we also can have an important role to play and a dignified mission to accomplish.

From a lecture delivered at Modena Military Academy on October 23, 1987





MILITARY CULTURE: TRADITIONS, VALUES, TEACHINGS



The theme of military culture, traditions values and teaching is a subject of unquestionable interest, on which a debate — not always exhaustive and objective — is now developing, also due to recent events which have turned the attention of public opinion to the problems of the Armed Forces.

It is a subject worth tackling, even though the task is not an easy one, since in a society characterized by pluralistic cultural matrices it is difficult even to give a satisfactory definition of the term “culture” in its widest meaning.

SIGNIFICATO DI CULTURA

CULTURE SPECIFICHE

NASCONO ED EVOLVONO IN RELAZIONE ALLA FUNZIONE CHE CIASCUN GRUPPO ESERCITA IN SENSO AL PROPRIO SISTEMA



FUNZIONE MILITARE

GARANTIRE ALLA SOCIETA' LA POSSIBILITA' DI CONSEGUIRE E DIFENDERE UN BENE SE NECESSARIO CON LA FORZA

CULTURA MILITARE

CULTURA DELLA FORZA

SCIENZA DI PREPARARE E MANTENERE IN EFFICIENZA LO STRUMENTO BELLICO E L'ARTE DI IMPIEGARLO IN GUERRA PER IMPORRE LA PROPRIA VOLONTA'

ASPETTO SCIENTIFICO

CULTURA DELLA FORZA

CULTURA MILITARE

ASPETTO ETICO O DEI VALORI

LOTTA DI VOLONTA' FORZE MORALI E SPIRITUALI

I will gladly leave the disputation on meanings to the philosophers, sociologists and anthropologists. As far as specific cultures are concerned, that is to say cultures referring to individual social groups, they can be said to be born and evolve in relationship to the function that each group exercises within the system of which it is part.

For soldiers, this function has remained unchanged across thousands of years of history: to ensure society the possibility of gaining or defending a blessing, with force if necessary.

Military culture is therefore the culture of force, not as an end to itself but as a means of resolution or even only of dissuasion in political controversies. It is, in other words, the science of preparing and maintaining the efficiency of the martial instrument and the art of using it in war for the purpose of imposing one's own will on the other side.

And since war is not only the clash of men, arms, means and matériel, but is also and above all a contest of wills, of moral and spiritual forces, alongside the scientific aspect in military culture we also find the ethical aspect, or the aspect of values.

Having thus defined the two fundamental aspects of military culture, we must now sketch out their spheres of interest.

In the vast field of military thought, the leading place, in terms of the complexity and high level of contents, must no doubt be awarded to the study of the phenomenon of war. The connections with historical and philosophical research which this study presupposes and entails are evident. In fact, beside military thinkers, many philosophers have devoted their attention to the immanence of the clash of arms in the unfolding of history, debating both the necessity and ineluctability of war and the permissibility of resorting to violence in order to serve a just cause.

At perhaps a less lofty but more specific level we find the studies on the phenomenology of war, whose scope is to find if eternal principles that govern the conduct of war exist, and if their application belongs to the realm of art or to that of science.

Military history provides both these activities with material for study and also the possibility of verification. This particular branch of general history, too, is not the exclusive patrimony of military culture, and indeed history was long thought of as meaning above all the history of wars.

Another field of investigation for military thought, but not for military thought alone, is that of the connections between war and politics. The subject has increasingly drawn the attention of scholars ever since international relations gradually began to assume global dimensions.

The above regards military culture's conceptual foundations and its connections and interactions with other cultures and sciences such as philosophy, history, sociology and political science.

But the military trade is essentially a practical one, and military thought must therefore transfer the theories derived from speculation to the operational field. It must, in other words, elaborate a doctrine that affords the best use of available human and technological resources in the event of conflict.

This is the field of strategy, tactics, logistics and organization of armed forces: exclusively military disciplines on which I do not feel called on to dwell here since they have long been acknowledged and classified as branches of the military art or science.

Along with these disciplines, which I would term the arts of the quadrivium, with a suggestive even if improper harking back to the medieval classification, today more than ever before one must posit three other camps of



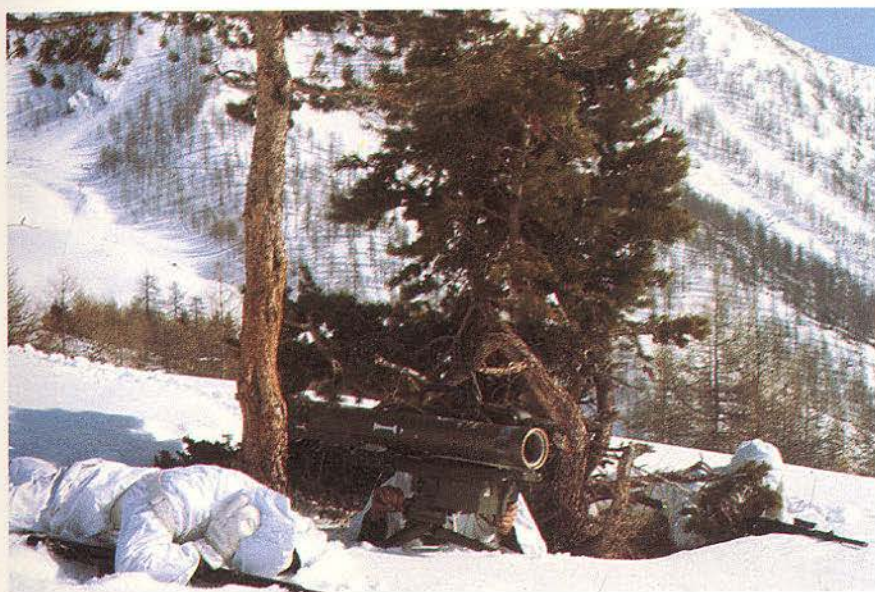
LA CULTURA MILITARE

E' CULTURA GLOBALE

E' PARTE INTEGRANTE
DELLA CULTURA DI UN'EPOCA
E DI UN POPOLO

E' CULTURA STORICISTICA

E' CULTURA UMANISTICA



ASPETTO ETICO

NECESSITA' CHE I MILITARI ESERCITINO LA FORZA
SECONDO LA VOLONTA' E GLI INTERESSI
DELLA SOCIETA' NAZIONALE

FEDELTA'
SPIRITO DI SACRIFICIO

LEALTA' - OBEDIENZA

SENSO DELL'ONORE
RISPETTO GERARCHICO

CORAGGIO

ESEMPIO

application of military thought. Continuing the analogy, I would call these the arts of the trivium, namely, military sociology, the science of organization, and technology.

One ought not be surprised by this broadening of the traditional realm of military thought to a terrain that might seem to belong more strictly to the industrial enterprise. Clausewitz himself observed that "war does not belong to the realm of art or science but rather to that of social life" and is similar not only to "politics but to commercial activity".

In light of the above, we can state first off that military culture is a global culture: it embraces nearly all fields of human creativity apart from the artistic fields, to which, however, it has always provided subjects and inspiration.

In addition, given the links and reciprocal influences that we have seen it establish and exercise with other types of culture, it does not present itself as a world unto itself but as an integral part of the culture of an age and of a people, with consequent traits of unitariness and uniformity.

Furthermore, military culture is historicist culture, for it accepts the lesson of the past and therefore considers reality as history, i.e. as development, rationality and necessity.

Finally, military culture is humanistic culture in the etymological sense of the term: it places man at the center of the stage of history; it addresses man, and from man expects resolute action.

This last consideration brings us back to the other aspect of military culture, its spiritual patrimony, or patrimony of values.

At the risk of appearing cynical, I believe that all value systems are founded upon a utilitarian or at least practical principle.

Now, because soldiers are the depositaries of force, it is necessary that this force be exercised in accordance with

the will and interests of society. This requires faithfulness from the military — and subordination of the strategic to the political objective — and faithfulness is one of the two fundamental values of the military ethic.

The other fundamental value is the spirit of sacrifice driven to its extreme consequences; the soldier is asked to consider the good of the Nation as a value higher than that which he attributes to his own life. And this, too, is manifestly useful and necessary.

From these two fundamental values follow all the others: there can be no faithfulness without loyalty and obedience, no obedience without a sense of honor and respect for rank. Likewise, it is impossible to demand sacrifice from one who lacks courage, nor can one inspire courage in others if not by example.

And I could continue, demonstrating the chain of consequences of the entire system of values that constitute the military ethic and their common origin in the two above-mentioned utilitarian principles.

This interpretation of the origins of the values, which some may find pessimistic, in no way diminishes their moral weight, for the military ethic is not supine acceptance of commands but also critical reflection and, therefore, judgment concerning commands.

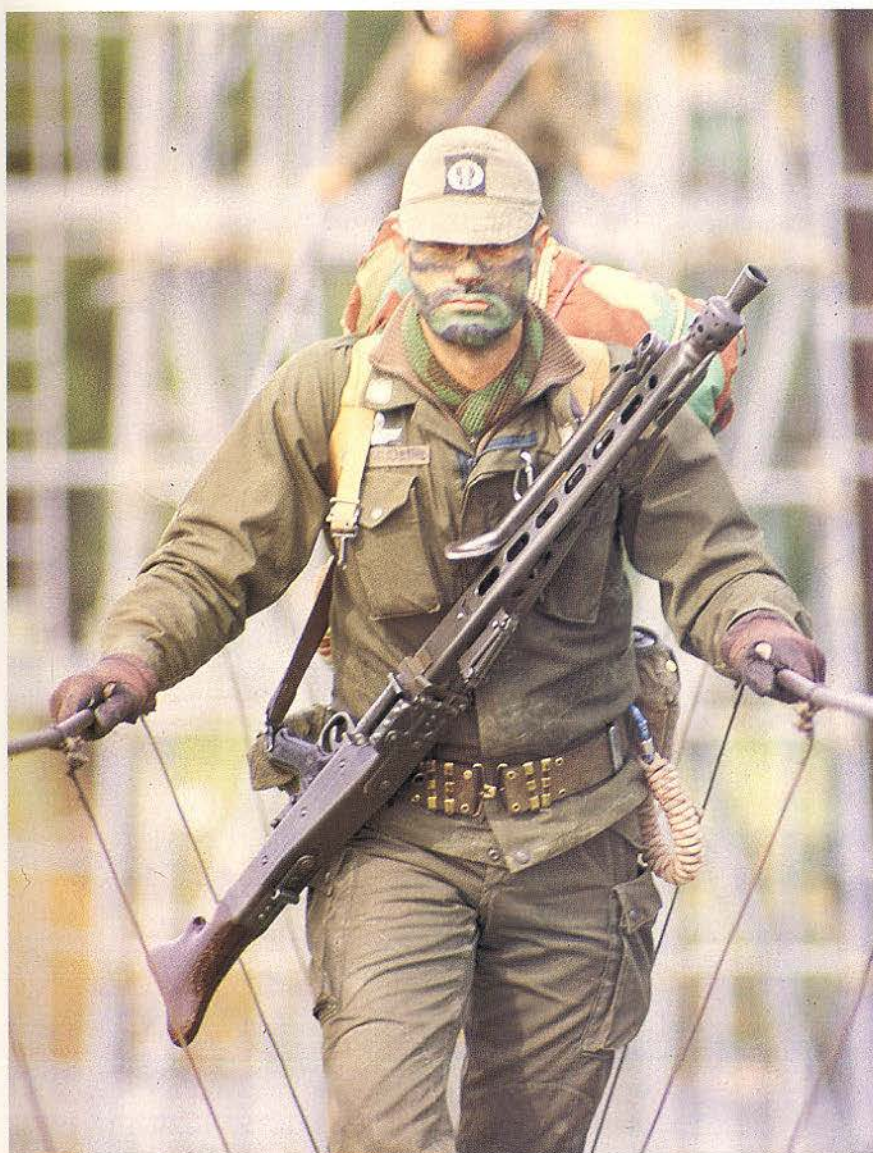
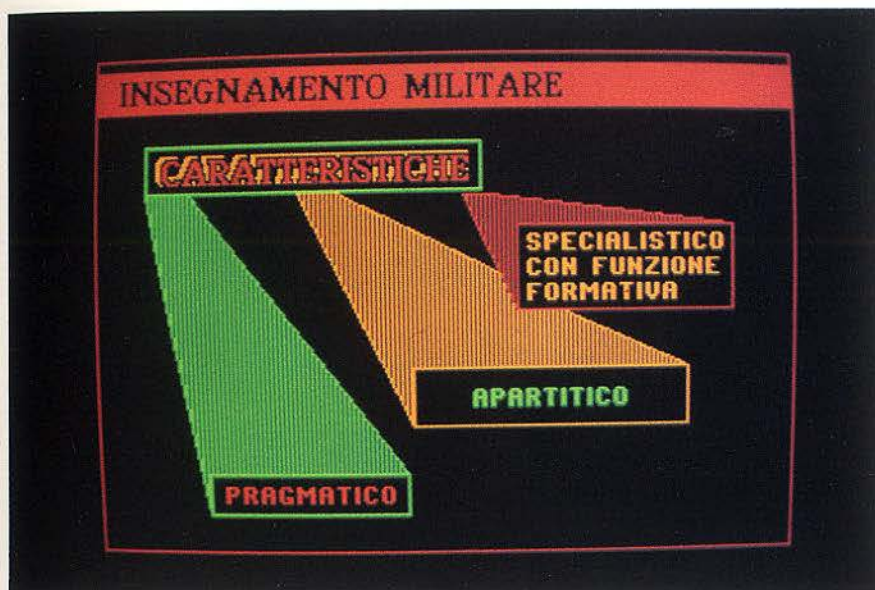
With this last concept, which leads the spiritual aspect back to the realm of reason, transcending the dualism between thought and values that loomed threateningly, I have concluded my attempt to clarify and define the term 'military culture'.

It now remains to be seen how this military culture is handed down from generation to generation, retaining its specific identity even with those modifications which attest to its validity.

Like any other culture, military culture is transmitted through tradition and teaching.

The former tradition is





based upon the immediate and therefore acritical acceptance of values and appeals to man's ancestral instinct by which experience appears as truth. It essentially affects behavior, and its relationship to teaching is thus the same that, in religion, liturgy has to doctrine.

But why appeal to feeling when one can act upon reason? Simply because in difficult moments, in moments of danger and tension, it is impulse, not reason, that dictates behavior. As the believer prays, so the soldier follows the Flag.

However, without education and, hence, conviction, tradition would be an empty shell. The soldier must also assimilate an awareness of motivations and practical knowledge; otherwise his generous impulse would be barren of results.

Furthermore, teaching is the only vehicle that permits culture, with the necessary updating, to be transmitted from one generation to the next.

But what are the characteristics of military teaching?

Though it remains specialized teaching, it has a distinctly formative function. It is teaching that achieves the unification of the two aspects of military culture, thought and values.

Secondly, it is non-partisan, although, under dictatorial regimes having a marked ideological coloring, the Armed Forces do not escape political penetration. But the political coloring remains a veneer of paint on the cannon's steel; with the first salvo gone astray, the paint dissolves and the laws of ballistics are duly reinstated.

He who holds military responsibility is instead well aware that his technical decisions may have political consequences, but it is for him a firm truth that the institutions to which he belongs must stay outside the arena of domestic politics.

In the third place, though at its highest levels it ranges through the realm of theory,

military teaching nevertheless remains pragmatic teaching. It never loses sight of its purpose: to prepare the men, cadres and troops, for war, for emergency.

It could be said that the above discussion has exhausted my task, which was to suggest an interpretation of "military culture" through an examination of its essential aspects.

But in order to sketch out the shape of the army of the future I cannot neglect to suggest a line of development for military culture as well. And this entails an examination of the "current state of the art".

With regard to the conceptual side of the issue, we can state right off that Italian military culture is definitely alive and lively in three of the four arts of the quadrivium: tactics, logistics and organization.

But we must also acknowledge that Italy has not had a military thinker of international stature since the time of Douhet, that is to say since the Twenties.

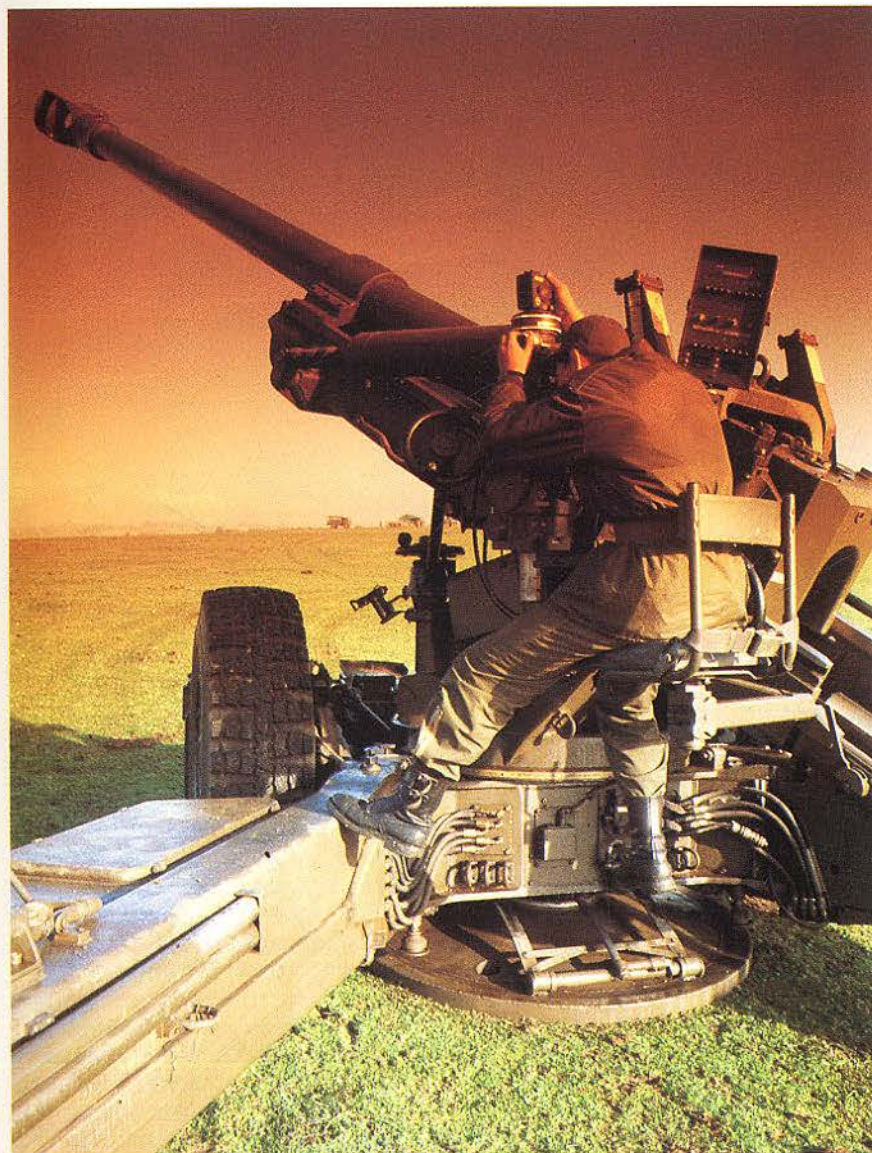
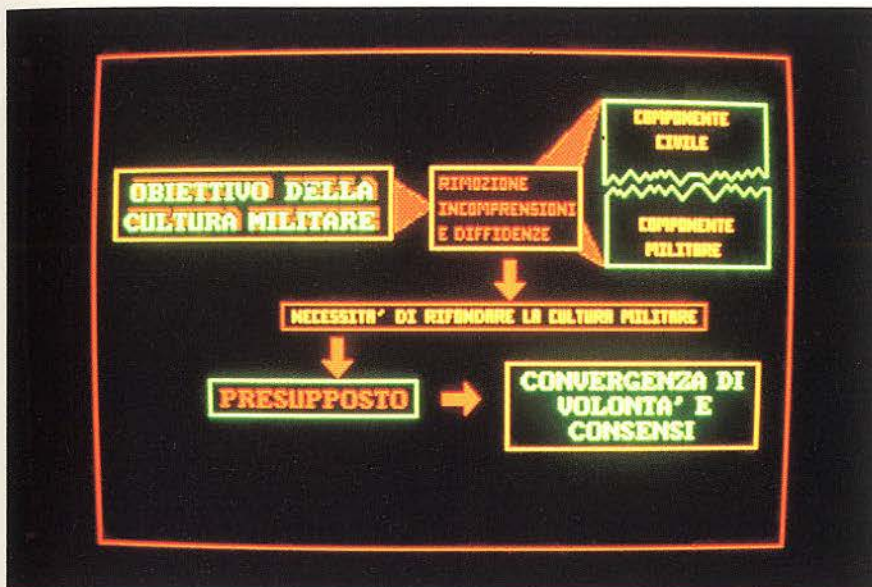
This is due in part to a rejection of the great themes of strategy, a natural consequence of an unfortunate war; but it is due also and especially to the natural tendency to trust in the strategy of an Alliance whose credibility is founded on deterrence without, by our free choice, having our own nuclear weapons.

As to the arts of the trivium, it can be said that in two of them — science of organization and technology — military culture is apace of the analogous development of the corresponding civil disciplines.

Military sociology is a different matter. It is just starting out and must fill the void that has developed in consequence of the general crisis of values found in current society.

To date the military world has evinced a certain distrust of sociology, which has wrongly been suspected of being an element disturbing to the system of traditions and values





that is the irreplaceable foundation of the military outlook. It is time to clear up this misunderstanding and to use the instruments that sociology makes available for a searching and objective analysis of the military condition and for the identification of the correctives to introduce into a system of thought and values which in no way must be subverted, but which has to be adjusted to the reality of a continuously and rapidly changing society, a society in which fringe groups seem to want to reject or marginalize the military reality.

Despite a number of encouraging signs, we have to face the fact that difficulties of comprehension between civil society and what has not by happenstance been called the "military planet" do exist and, though episodically, reach points of incommunicability.

We might cite, for example, several recent events involving the military world that, emotionally — and at times instrumentally — played up by the mass media, have disoriented public opinion.

But then this, too, is the objective military culture must set itself: to remove the points of incomprehension and distrust between the civil and military components of society.

This can be achieved only through a recasting of military culture, to be promoted both in the sphere of the Armed Forces and in the wider context of national society.

It is an ambitious project that presupposes a convergence of will and consensus from various quarters. And I believe that, if appropriate efforts are made to make them sensitive to the issues, the political world, the world of culture, the world of information, cannot but agree on the unescapable necessity of finally giving our country a "culture of defense".

But how can we soldiers prepare ourselves to do our part?

It seems evident to me that the place to begin is the preparation of cadres through

an adjustment of the training institutes' programs and through the formation of an organic corps of teachers.

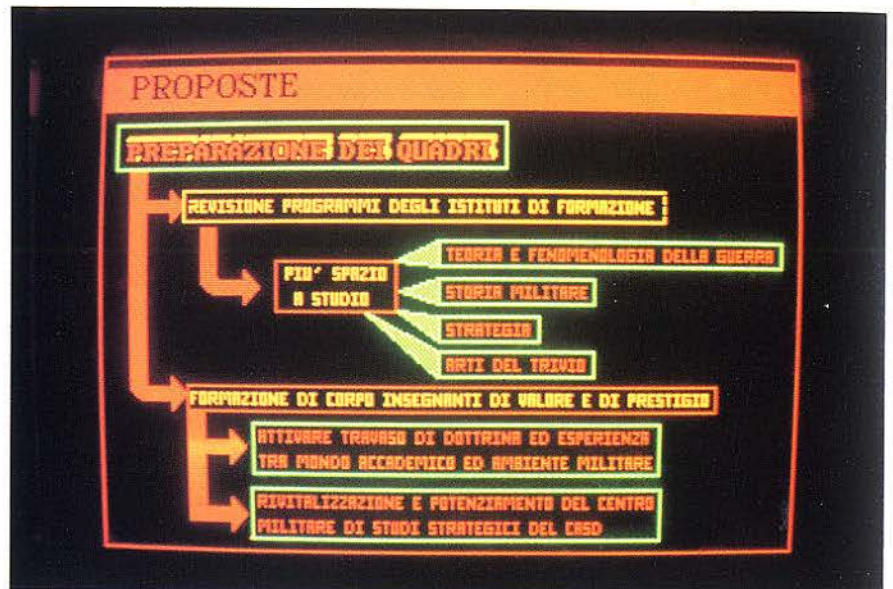
The training institutes' current programs follow from a managerial vision of the military profession, much the vogue in a very recent past, and assign scientific and economic-juridical disciplines priority to the detriment of the more strictly professional disciplines. It is instead my conviction — and not mine alone, for it is shared by many — that an officer must also be a manager but above all a leader.

This different vision must be reflected in the revaluation of what I have termed the fundamental concepts of our profession, giving more room to the study of the theory and phenomenology of war, to military history, to strategy and to the other arts of the trivium, all this while laying stress on the cultural and philosophical, historical, political and sociological context in which military thought actually is practiced.

Curriculum revision alone is not enough to ensure a change of course if it is not sustained and enlivened by a corps of masterful, prestigious teachers — military and civilian — endowed with reciprocal and in-depth knowledge of their fields so as to achieve an integration of curriculum, failing which it is not possible to give a unitary quality to teaching.

In particular, it is necessary to activate between the academic world and the military environment a cross-fertilization of doctrine and experience of the kind that has already produced promising results in the field of Military Medical Services.

The High Defense Studies Center's newly formed Military Center for Strategic Studies could be invigorated and strengthened by the contribution of such a teaching staff. And, in liaison with the Armed Forces History Offices and with a Documentation Center which could make available to scholars all the considerable



body of material of military interest that is being published in Italy, the Military Center for Strategic Studies would be capable of having a deep and concrete impact on the nation's cultural life. It is vitally important, however, to keep the Center's activity from being limited to internal debates and to the publication of documents and official acts whose

circulation is limited and that are addressed to a handful of specialists.

The adoption of these measures would, in my opinion, constitute an excellent jumping-off point for the relaunching of military culture. But for this to become a "culture of defense" the contribution of the other components of society is indispensable.



many valid retired officers, including them as consultants or ex officio members in the world of research, of economics and of culture.

With the ties between the "military planet" and the world of culture and information thus established and strengthened, it will be possible for all of us together, without biases but with a spirit of harmony and collaboration, to rethink the entire system of values that are at the foundation of the military ethic. And not, certainly, to deal out summary justice, for these values are still valid; but to free them from the scoria of a past era when soldiers were seen only as the makers of war, while today they are and want above all to be the sentinels of peace.

Fortunato Pietro Muraro



It is necessary to stimulate the demand for a "culture of defense", an initiative which, as is true abroad, necessarily involves the universities and which the mass media can support.

A more assiduous and objective and, of course, free information managed by journalists and competent civilian and military

collaborators is an indispensable instrument for reawakening the citizenry's awareness of and interest in the problems of national defense.

Especially in view of its psychological impact on public opinion, one must not, lastly, neglect the possibility of drawing on the experience, culture and spirit of service of



Lt. Gen. Fortunato Pietro Muraro was commissioned Second Lieutenant of Artillery after completing the regular courses of study at the Military Academy. He subsequently attended the Application School.

Among his past assignments, he has been Commander of the 33rd Artillery Regiment of the "Folgore" Division, Commander of the Artillery School and Commander of the "Centauro" Armoured Division. Gen. Muraro has been Staff Officer at the Command of the 5th Corps and has served on the Army General Staff as Chief of the Regulations Section, Chief of the Training and Regulations Branch and, lastly, Chief of the 3rd Division.

He has also served as Director General of Military Motorization and Commander of the North-East Military Region.

General Muraro was appointed Commander of the 3rd Corps on October 24, 1987.

THE EVOLUTION OF THE DOCTRINE OF EMPLOYMENT





In order to explain the evolution of the tactical regulations of the Army it is necessary to illustrate the concepts through which, with the passing of time, these basic components of the Army have changed.

The regulations, in fact, show the ways to carry out the various kinds of combats (offensive and defensive) on the part of the Major Units (Army Corps and Brigades) and of the Units (Battalions, Companies, etc.). These ways tend, in their turn, to obtain the peak efficiency from the personnel, the weapons and the available means.

History is full of examples which demonstrate how decisive is the impact of regulations on the development and the result of combats, battles or even wars, since several times smaller but better employed forces defeated the bigger ones which followed obsolete concepts.

The doctrinal concepts of an Army are connected with definite parameters; some among them (for instance, the geographic platform, the type of government of a nation, the experience derived from previous wars) are characterized by a **considerable time-stability** whereas some others (in the first place, the strategy of the alliance to which a nation belongs and technological development) evolve with a very fast rhythm.

The stablest parameters give their contribution to the establishment of a relative continuity of the military thought. This is a characteristic which greatly helps those who have the responsibility of determining the military instrument in terms of systems, training and acquisition of weapons and equipment.

On the contrary, the other parameters make the recurrent updating of rules necessary.

Therefore, the doctrine is influenced by two contradictory needs: the first is that of preservation which is an indispensable condition for any planning, while the second is

renewal, that cannot be ignored if we want to be up-to-date.

From the dialectic comparison between these two issues and the predominance of one of them on the other, either new doctrinal conceptions originate or the existing ones are confirmed and strengthened: this is, basically, the reason for the disappearance of the various doctrinal series in our Army, as well as in all the others.

After this short explanation of the reasons that justify the doctrinal evolution, I now come to the main subject, taking into consideration only the aspect of defence, which is the most important from the operational point of view.

Since the end of the Second World War, during a period of forty years, there have been five basic changes in our doctrine of employment.

I will illustrate them briefly, not because I want to make an erudite historical analysis, but because in the doctrinal field — as in others — it is indispensable to know the past in order to understand the present and, above all, to try to foresee the future with sufficient reliability. In fact, doctrine, as nature, does not proceed by “leaps”.

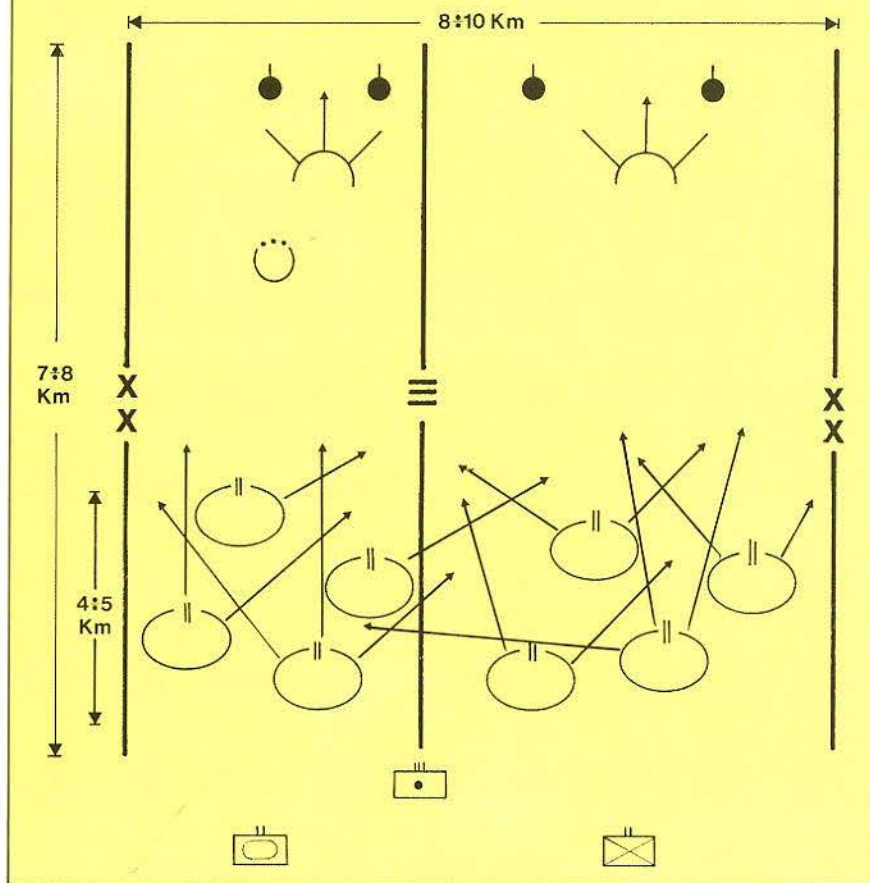
The Second World War, in all its duration, saw the triumph of manoeuvre. Faced by the tank and the ground-attack airplane, the continuous defence, neither very deep nor very reactive, from the tactical point of view — inherited, with a few changes, from the First World War — gets in a crisis.

The arrangement by in-depth echelons of the forces and the renunciation to the continuity of the deployment — that are the most characteristic elements of the doctrinal series between 1948 and 1950 — originate from these premises.

It is clear that the defender, who wants to increase the depth of the active part of his deployment without nevertheless having enough forces to garrison everything, is forced to concentrate on the strong points, organized in all-

THE DEFENCE ORGANIZATION IN 1948-50

(Publication of the series 3000)



round systems and set for mutual support.

Let me now spend a few words on the "strongpoints" (strongholds in technical terms), since this defensive element form this period on will always be present in our doctrine, albeit with sensible changes in its functions and its internal organization. At this stage of the doctrinal evolution, it is a fortified structure, manned by a battalion, with a all-round capacity of reaction in an area of approximately one square kilometer.

In a defensive organization of this kind the infantry strongholds are deployed, chessboard-wise, in two or even three orders and cooperate among themselves, i.e. they are positioned at a distance from each other which allows them

to control with fire the interposed spaces and consequently prevent the concentration of the efforts of the adversary against one of them neglecting the others.

The depth of the defensive position is approximately 7-8 kilometres and the front 8-10 kilometres.

After 1950, it became necessary to cope with the effect of nuclear fire on operations. The analysis of the unusual power of the new nuclear weapon led to the conclusion that a historical change had occurred, marking the end of an age and the beginning of a new one with unpredictable developments. After the solution of the problem of the opening of breaches in the defensive positions, it appeared that in

the future the armoured forces could become protagonists of the tactical and strategic success. At the same time, there is a justified concern for the capability of defence to neutralize a massive and sudden concentration of power of this kind.

In this framework, in 1956, the so-called "doctrinal series 600" was created. It is the period of the NATO strategy of "massive response".

However, taking into account the high cost of production, the still limited availability of weapons and the possibility that the operations be totally or mainly carried out with conventional means or procedures, the authors of the doctrinal series 600 think that it is possible to rely on **bivalent** processes, very different from those of the past but valid, whether the atomic weapons are used or not.

The requirements that the defence must meet in order to survive and, at the same time, to perform its task, are:

- drastic reduction of the thickness of the deployment, in order to reduce its vulnerability;
- renunciation of the cooperation between contiguous strongholds;
- arrangement of the forces in in-depth echelons and utilization of the spaces obtained in order to employ nuclear fire and armoured reserves;
- massive use of obstacles to activate the empty spaces.

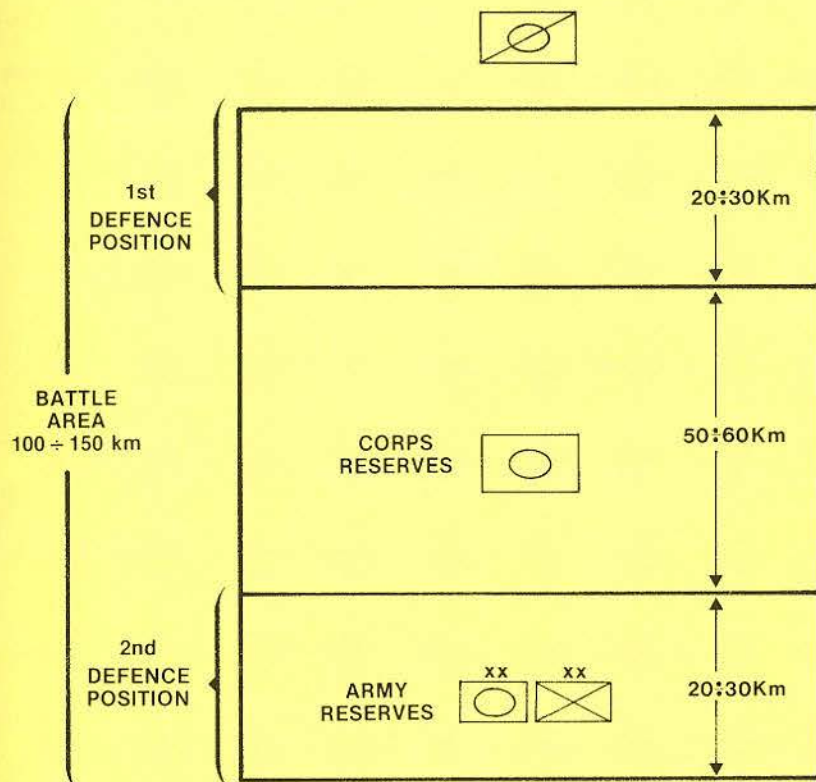
These requirements imply the following defensive organization:

- an area where a contact and delay echelon operates (possible);
- a battle area, 100-150 kilometres deep, including — among other things — two defensive positions (each of them 20-30 kilometres deep) where we find again our battalion strongholds.

A period of little more than 5 years is enough to make the Army Staff consider that the assumptions of the doctrinal series 600 are not valid anymore.

THE DEFENCE ORGANIZATION IN 1956

(Publication of the series 600)



The basic strategic facts fostering the review of the regulations are the nuclear parity achieved by the Soviet Union, the wide availability of weapons and their miniaturization, which allows their more massive use in the tactical field.

With a great number of weapons in the battlefield, it is not possible anymore to consider one course valid for all circumstances, but it is necessary to think about different procedures, each of them valid for a specific operational situation (unlimited or limited nuclear war, conventional war, conventional war in a potential nuclear environment) and about a polyvalent instrument, i.e. an instrument capable of being used in the most different ways. This is why, in 1963, the series 700 is published.

The defensive position is more than doubled with respect to the past (80-140 kilometres compared to 25-30 kilometres of the series 600) and is divided in three zones:

- Security Zone, 10-15 kilometres deep;
- Arrest Zone, 70-130 kilometres deep, divided in:
 - Resistance Position;
 - Zone of the Reserves of the Army Corps.

The series 700 considers two possible procedures of defence in the Position of Resistance;

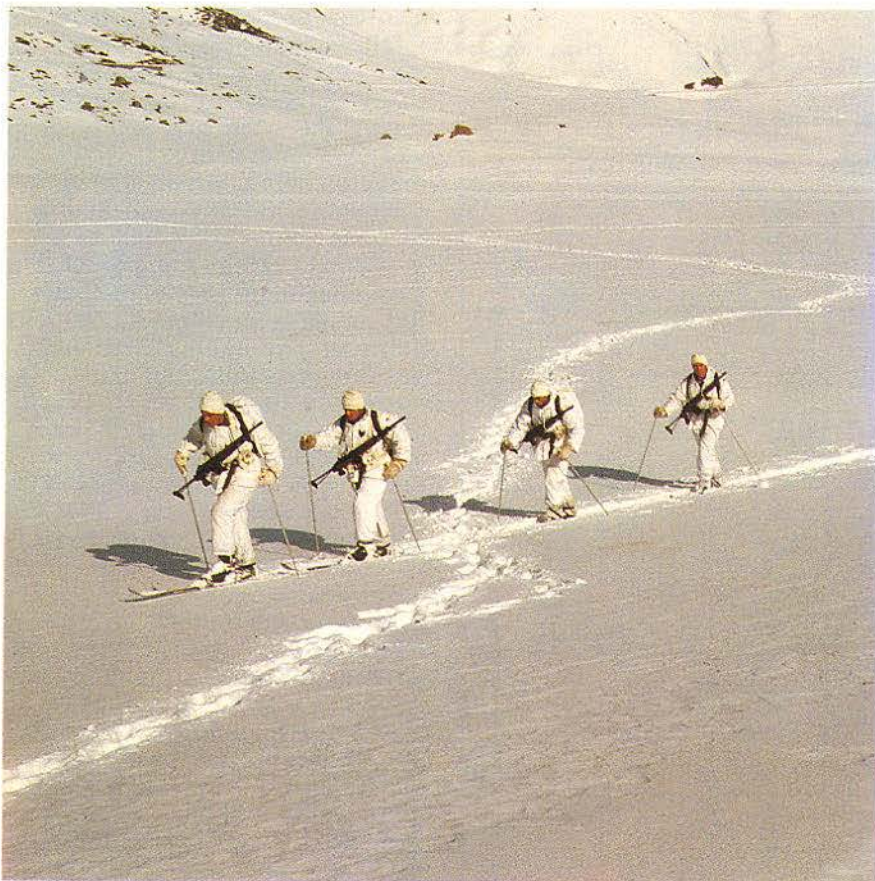
- the anchored defence (Resistance Position 20-25 kilometres deep), still based on strongholds (this time at company level), mostly adopted in the mountain and Alpine environments and entrusted to Alpine and Infantry Major Units;
- mobile defence (Resistance Position 50-80 kilometres deep);
 - based above all on the resolute importance of powerful counterattacks;
 - used in terrains with a high ratio of movement;
 - conducted by armoured and/or mechanized Major Units.

When necessary, the two procedures of defence can be combined in depth.

ELIMINATION OF
THEATRE AND SHORT
RANGE MISSILES

EMERGING
TECHNOLOGIES

STRENGTHENING OF THE "CONVENTIONAL"



The change of some of the basic assumptions of the series 700 leads once again the Army Staff to study a new doctrinal series (800) which is published at the beginning of the seventies.

The main fact is the adoption within the Western Alliance of the strategy of "flexible response" replacing that of "massive response".

This new strategy, which is still valid and will probably be so also in the future, after the rejection of the principle of "everything or nothing" which is scarcely credible in case of minor aggressions, considers reactions proportional to the nature and the extent of the aggression.

In this framework, even the use of nuclear fire would be carefully gradual, i.e. it would be submitted — when its use becomes indispensable — to the criteria of "limitation", as regards the number and power of the weapons, and of "selectivity", as regards the particular criteria to be adopted

in the selection of targets.

These are the conceptual assumptions of the series 800 which marks a return to the past if compared to the series 700, that is to say a return to a limited availability of weapons, similar to the one which had inspired the series 600, with the difference that the limited availability was then a technical and financial fact, while now it is basically a political fact. Consequently, there is a change in the aspect of the defensive position in which the Divisions lead the defence with the abovementioned procedures of anchored defence and mobile defence, not combined in depth anymore, but only along the front, in sectors whose depth is not substantially different, as in the series 700, but practically similar.

Previously I have mentioned the return, in practice, to the philosophy of the series 600, and now I would like to stress some important aspects of the publication, because they are in

part still valid and likely to remain valid also in the future.

First of all, the reduction of the depth of the Defensive Position, which changes from the 80-140 kilometres of the series 700 to the 30-40 kilometres of the 800, and the abolition of the combined defence, made possible by the reduction of the contribution of nuclear fire. This means that more credit is given to terrain rather than to space.

I also want to emphasize the revaluation of the conventional forces, which become a basic and decisive element of operations. In fact, the raising and distancing of the nuclear threshold depends on their effectiveness and capability.

In 1976, the Army Staff started the restructuring of the Service, a process that, even if incomplete, brought — among other things — to the mechanization of the infantry battalions and to the adoption of weapon systems of a more advanced conception.

These innovations could not leave the rules of the series 800 unchanged. This series, as the previous ones, took into consideration the characteristics of the instrument of the pre-restructuring instrument in terms of capabilities and, above all, of limitations.

Other evaluations, first of all those concerning the experiences of the Arab-Israeli War of Yom Kippur, contributed to a very remarkable extent to the creation of a new doctrinal series.

In fact, on the one hand, those war events had demonstrated that it was indispensable to have a protective umbrella under which the land forces could operate, sheltered from the attacks of the air forces; on the other the massive employment of the tanks had been partially reappraised, considering the precision and effectiveness of the antitank weapons. These observations had induced the Army Staff to reconsider the relevance and the importance of counterattacks and to consider

PUBLICATION	NATO STRATEGY	NUCLEAR AVAILABILITY	DOCTRINE'S CHARACTERISTICS
600	MASSIVE RESPONSE	LIMITED	DUAL
700	MASSIVE RESPONSE	LARGE	FLEXIBLE
800	FLEXIBLE RESPONSE	LIMITED	FLEXIBLE
900	MASSIVE RESPONSE	LIMITED	DUAL

the tank from a new and different point of view, i.e. as the potential tool for a cautious and continuous attrition of the adversary.

In this conceptual framework and with the basic strategic platform unchanged, the creation of a new body of doctrines was started: they were directed, in particular, rather than to the general structure of the defence (which, therefore, remains forward-projected) to the procedures of action, trying to make them consistent with the new organizational reality and with the different operational situations.

On this subject, I just want to say that the series 900 does not include anymore neither anchored defence nor mobile defence in their aspect of action of whole Major Units, but it codifies at a much lower level (namely, the company) the possibility to have more or less maneuverability.

Within the combat group at battalion level, it is the Commander who must decide — on the basis of the limitations given, for coordination, by the higher Command of the task, of the field and of the nature of the available forces — and who must dose the appropriate tactical actions, static and dynamic, in order to achieve the results required of him.

I have thus outlined synthetically the evolution of the national defensive regulations from the post-war

period to the present. I have tried, in particular, to point out the elements of continuity and the changes of each doctrinal series, in order to give a clear interpretation permitting, as I said in the opening lines, to foresee the future through the past experiences.

The fundamental fact emerging from this whole analysis, which is of an operational rather than doctrinal nature, is the strong will to plan, lead and bring to an end the battle remaining as close as possible to the border. This stems also from the fact that it is well known that it is impossible to play the "space" card, given the nature, the characteristics and the decisive economic, political and demographic importance of the areas which would be involved.

I am absolutely convinced that this fact will not change in the future, also consistently with the NATO's strategy of "forward defence", which is the product — also in Central Europe — of considerations similar to those I have illustrated before. This does not mean, however, that I am thinking about a rigid and fragile deployment, easily "pierced" in the front and outflanked by the airmobile forces.

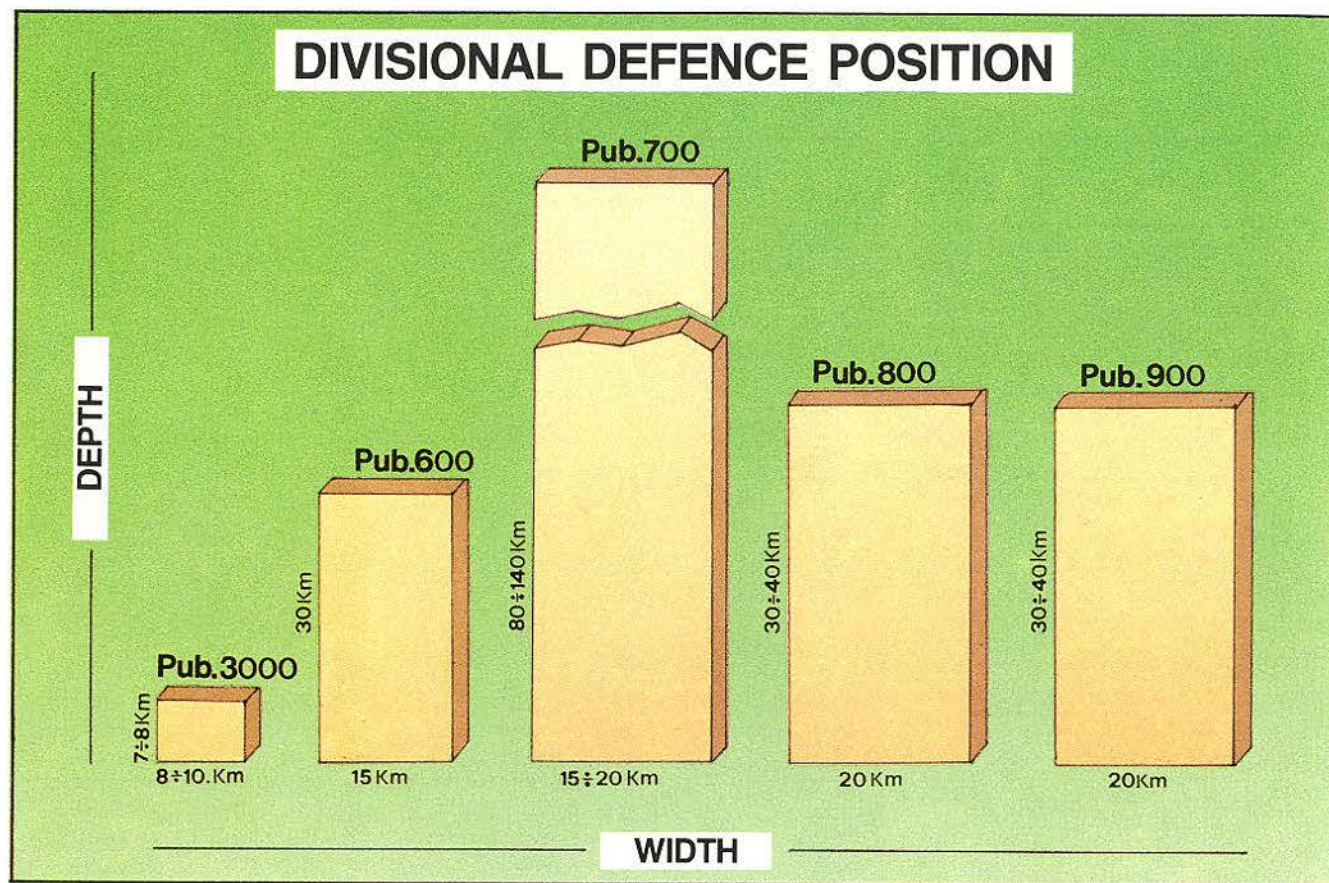
On the contrary, I'm thinking of a pre-organized defensive belt conveniently deep and where the forces are projected forward, determined not to lose ground but

organized to use all the available space vis-à-vis enemy efforts that cannot be easily contained otherwise. Behind this organization, it will be necessary to continue to maintain highly mobile reserve forces capable of timely interventions also against enemy forces operating in the third dimension. Therefore, no prearranged yielding of space, neither at tactical nor, even less, at strategic level.

All this probably excludes "a priori" the return to spaces and depths similar to those considered by the series 700 and certainly the evolution towards rules based on the so-called "territorial war" or "people's war" of Yugoslav brand, which finds its justification in historical, political, geographic and ideological premises abysmally different from ours.

Another element that we can deduce from the study is the credit constantly given to the strength of terrain which, nevertheless, has been sensibly reduced with the series 900. Clear signs of this are the disappearance of the anchored defence which — faced by a potential enemy who considers fire its favorite weapon — circumscribed the mass forces within the unequivocal perimeters of the strongholds and the downgrading of the individual stronghold, which once was the static structure for excellence, and today is (and probably will be also in

DIVISIONAL DEFENCE POSITION



the future) an extreme solution, to be adopted only in particular situations and terrains.

Consistently with the utilization of materials and sources of fire of high tactical mobility, the series 900 will emphasize the most flexible, dynamic and reactive procedures. In particular, with the acquisition of modern antitank and anti-aircraft weapons, it is not unlikely to think that the tank will gradually regain its original decisive function.

A third element emerging from the "retrospective study" is the variability of the importance of the nuclear component.

The weapons of massive destruction start to be weighty in the series 600 and become protagonists with the series 700, where the conventional forces sometimes are nothing more than mere "supports".

With the strategy of flexible response, the panorama changes completely and the conventional forces assume the

fundamental function of being one of the components of the triad on which deterrence and the defence of Europe are based (the other two components being the strategic nuclear forces and the theatre nuclear forces, including the tactical ones).

Nowadays, this function is getting more and more important, together with the increasing doubts undermining the credibility and the rationality of nuclear escalation.

Among other things and the negotiations under way on the elimination of the theatre missiles and of the short-range missiles show, in more and more peremptory terms, the importance of the conventional component which must be absolutely increased if we want to avoid to compromise a balance that till now and for many years has preserved peace.

It is clear, in fact, that qualitatively and quantitatively insufficient conventional forces, not supported by low-power

nuclear weapons, would certainly be doomed to disaster and the only alternative would be strategic nuclear apocalypse.

In support of the conventional component, and as a premise to its strengthening, the so-called "emerging technologies" are slowly coming out.

In the near future it will be possible to have extremely effective means for command, observation of the battlefield, acquisition of targets and the neutralization in depth of individual or complex targets through the so-called smart ammunition with target-seeking heads.

These new technologies will permit, essentially, to take better and more timely decisions and to see, hit and destroy more in depth, thus obtaining effects similar to those of the tactical nuclear weapons of lesser yield.

It will therefore be possible, in particular:

- to raise considerably the nuclear threshold;



• to produce more in depth, with the appropriate use of fire, the attrition and the separation of the enemy forces in order to make it possible for the defender to face them separately, at successive times, when their capability is appropriately reduced.

It is a long and costly way, with some risks, and the present sharp debate within NATO concerning the subject of the "employment of conventional forces" is a proof of all this. But this is the only possible way — and here we see its merit — therefore it must be followed with conviction and firmness.

In this strategic, tactical and technological framework, will the present doctrinal series still be valid?

Personally, I am convinced that the 900, which is based on a strategy that does not seem to have any alternatives, and on positive future procedures, will keep on being fully applicable, at least in the short-term. Certainly the introduction of

new and more effective means — with the consequent organizational repercussions whose signs can be detected already now — will allow to sharply improve the efficiency of the present procedures. This does not mean, however, that we must completely change a conceptual structure that, even if ten years old, still represents an instrument we can and must rely on.

Sergio Onnis



Lieutenant General Sergio Onnis, a former Artillery Officer, has attended the Military Academy, the Application School, the War College and the Center for High Defence Studies.

He commanded the 2nd Battalion, 131st Regiment "Centauro" Self-propelled heavy field Artillery, the artillery of the "Folgore" mechanized Division, the "Legnano" mechanized Brigade and the Application School.

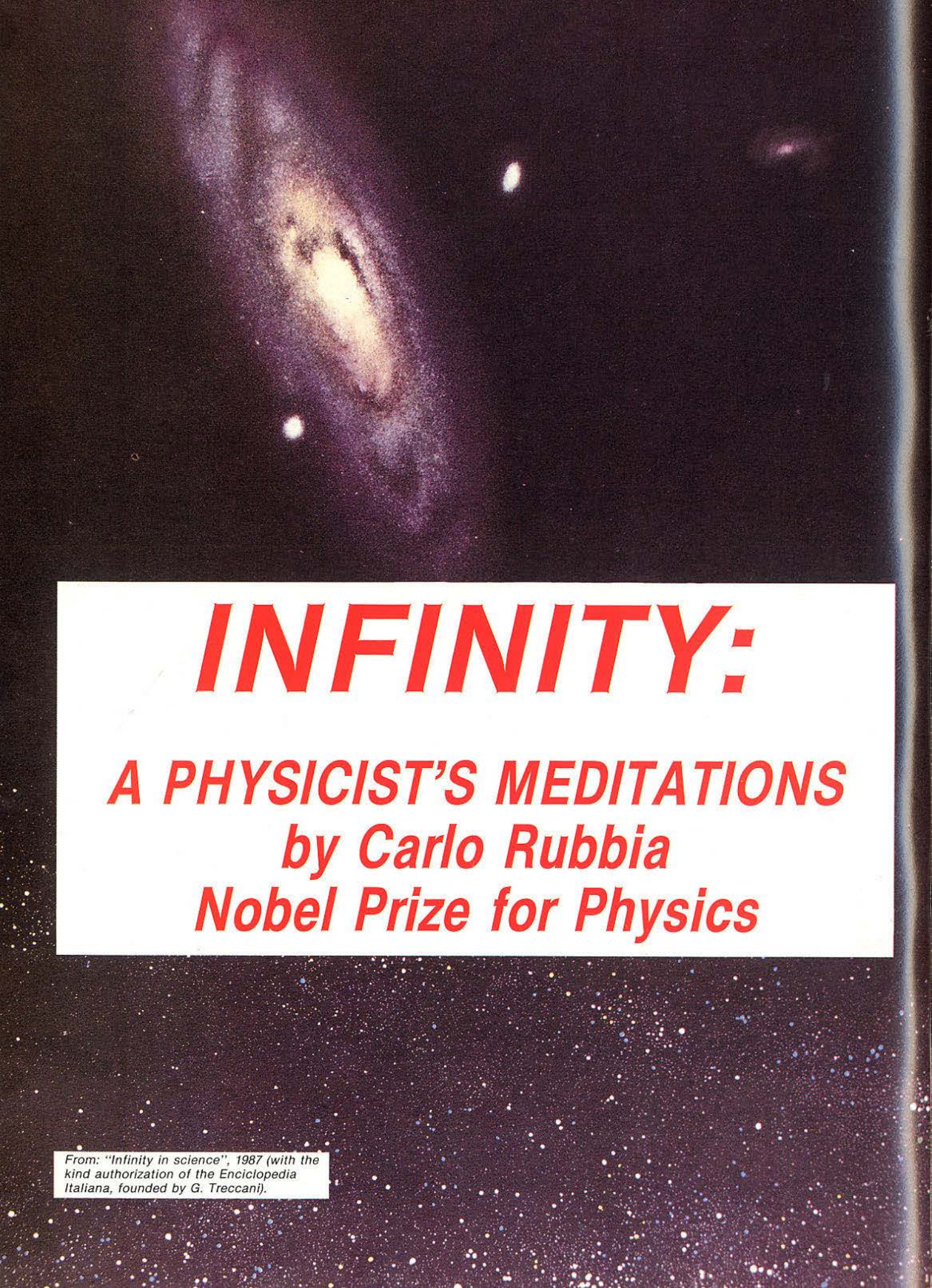
As a General Staff Officer, he has been Chief of the Tactical Regulations Section of the Army Staff, of the Training and Regulations Branch of the Army Staff and of the 1st Division of the Defence General Staff.

Lt. Gen. Onnis has been awarded the cross of "Commander of the Order of Merit of the Republic of Italy", the "Mauriziana" Medal, the Gold Cross for seniority in service and the Long Command Medal.

Lt. Gen. Onnis has been Commander of the War College since October 1, 1987.

Author's note.

In writing this article I have extensively availed myself, with the Author's support, of articles on the same subject published by Lt. Gen. Luigi Salatiello in several issues of "Rivista Militare".



INFINITY:

A PHYSICIST'S MEDITATIONS

by Carlo Rubbia

Nobel Prize for Physics

From: "Infinity in science", 1987 (with the kind authorization of the Enciclopedia Italiana, founded by G. Treccani).

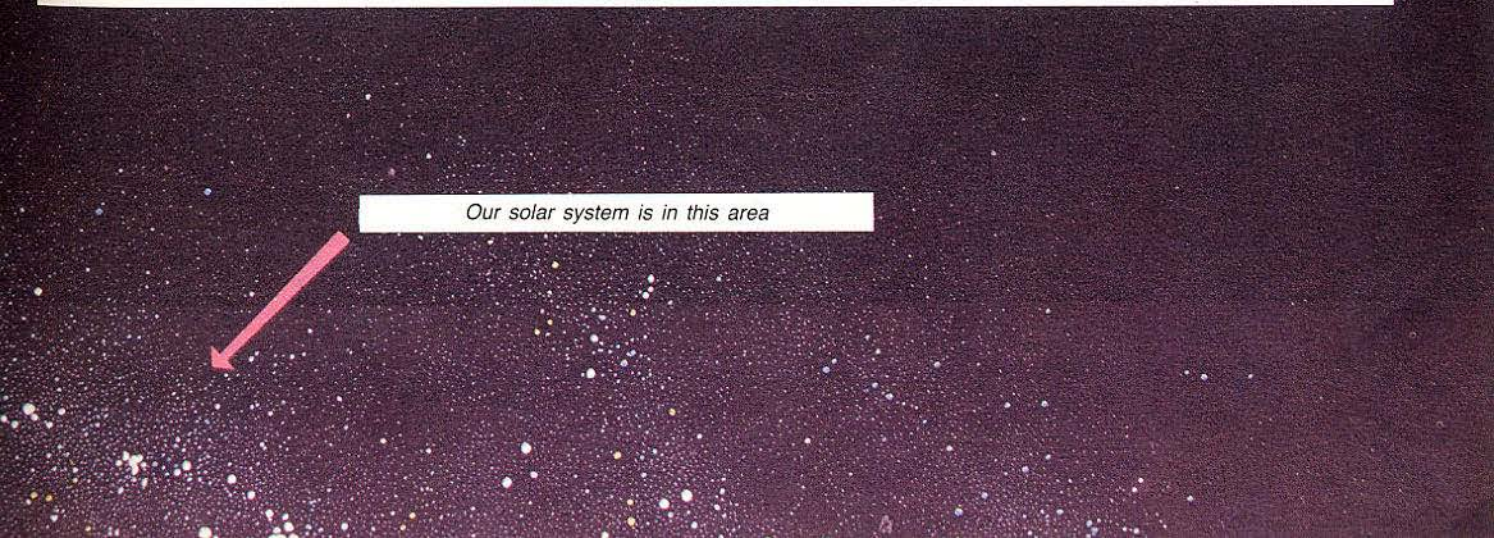


At first sight, “infinity”, as an abstract mathematical concept, does not have a direct function in the physical world — which in fact is the dominion of experimental research — based on the measurements of physical quantities which, because of their nature, have always fixed numerical values. Nevertheless, modern science has had to partly adjust its point of view regarding the concept of infinity; this was due to the arrival of quantum mechanics — and above all to the indeterminacy principle introduced by Werner Heisenberg. This principle does

not nullify the principles of conservation of energy and momentum but it makes it possible for any breaking of such principles to go unobserved if it is rectified rather promptly. The indeterminacy principle states that such breakings can be tolerated if they do not last too long and if they do not extend to great distances. Together with the “real” physical processes, one must also consider a whole new world of “virtual” processes, the majority of which — as we shall see — happen spontaneously all the time.

But first of all, what do we

mean by “too” long an “too” far? The answers depend on the entity of the apparent breaking: the greater the unbalance, in the energy and momentum of the “virtual” process, the faster it has to disappear. Phenomena of arbitrarily great energy can therefore take place “spontaneously”, as long as the equilibrium is reestablished in a sufficiently short time. In more precise terms, the product of the energy-unbalance multiplied by the operating time must not be greater than Planck’s constant, which is equal to 1.054×10^{-27} erg x sec, a number which is incredibly



Our solar system is in this area

small compared to everyday life phenomena, but also very significant for atomic, nuclear and subnuclear processes.

The presence of an infinitely large number of possible virtual states, to which nature has continuous access, complicates enormously the structure of the universe. For example, because of the virtual process, vacuum, something which a priori is simple, is not just a space in which there is no matter. Any object can spontaneously appear in any moment from a vacuum, and disappear again in the short time interval allowed by the indeterminacy principle. All types of particles can be created spontaneously, even charged ones: the only condition is that the charged particles have to appear and disappear in couples made up of a particle and an antiparticle. Also in the ephemeral field of virtual particles there is a principle of conservation which is never broken: the conservation of the electric charge.

These processes, for example, have consequences on electromagnetism. Let us consider what happens when a real electron is surrounded by a cloud of virtual couples of electron-positron. The virtual charges are polarized: the negative charges are repelled, while the positive ones are

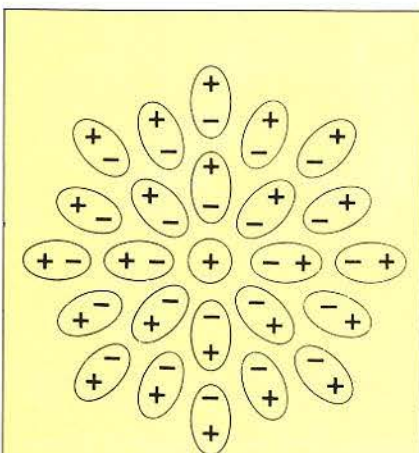


Fig. 1 Polarization of a dielectric medium around an experimental charge.

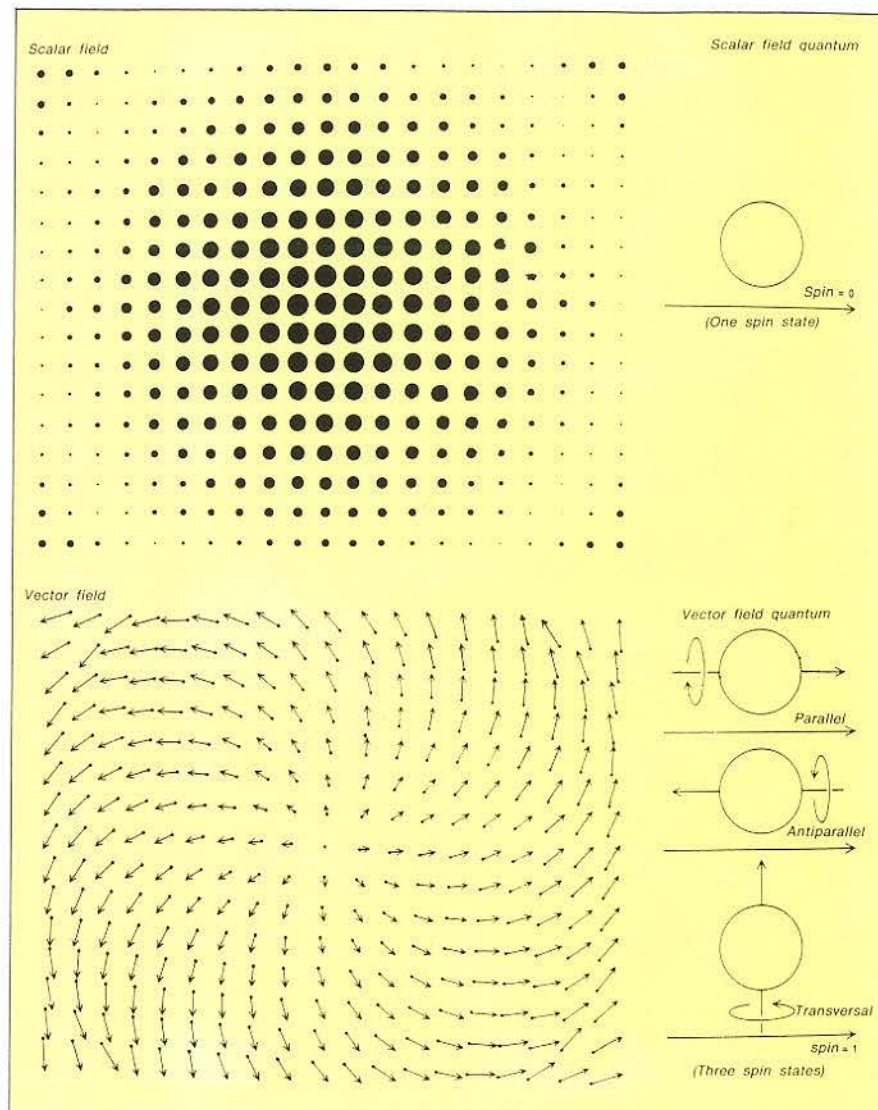


Fig. 2 Vector and scalar fields

attracted to the negative charge of the real electron. The result is that the electron is surrounded by a close cloud of positive charges which partly shield its own charge (fig. 1). From this analysis we discover that the "bare" charge of the electron is much greater than the measured one. If it was possible to measure, at a very short distance, the electron's charge, one would find that it increases as it enters the shielding layer. An elementary particle — like the electron — in its usual description is considered as punctiform, i.e. it is possible to move closer up to an arbitrarily short distance from the center which has infinitesimal sizes. The consequence of this hypothesis

is that to reach the "bare" charge, the distance must be zero: the result of this extrapolation is that the bare charge becomes infinite! Then, not only does the "bare" charge result extremely great, but also the electrostatic repulsion to the immediate surroundings of the electron generates a self-energy which is also infinite and which therefore makes the total mass infinite too; with this alone, the electron would be expected to be extremely heavy! For a better understanding of these very interesting effects we have to make a small digression and mention what is meant by quantum field theory. A field is simply a quantity fixed in all the points of a certain region

in space or time. For example, this quantity could be the temperature, and the region could be the surface of a frying-pan. In such a case the field is made up of the temperature values in all the points of the surface.

Temperature is considered a scalar quantity, because it can be represented with a position on a straight line or scale. The corresponding temperature range is a scalar field and each point on it is associated with a single number, an absolute magnitude (or module). There are also other types of fields but for our present aim the most important one is the vector field and on each of its points a vector or arrow is drawn (fig. 2). A vector has both an absolute magnitude, represented by the length of the arrow, and a dimension, which in threedimensional space can be defined by two angles: therefore three numbers are needed to be able to state precisely the value of a vector. An example of a vector field is the speed field in a fluid; in every point of the whole volume of the fluid an arrow can be drawn to indicate the speed and the direction of movement of the point itself.

In the description of the electrically charged particle it is assumed that the charges are the field's sources. Subsequently each charge interacts with the totality of the field obtained by adding the effects of all the sources.

In quantum mechanics, the particles too can be represented as fields. For example, an electron can be considered as a wave packet with a certain finite range in space. Vice versa, it is often convenient to represent a quantum mechanics field as if it were a particle.

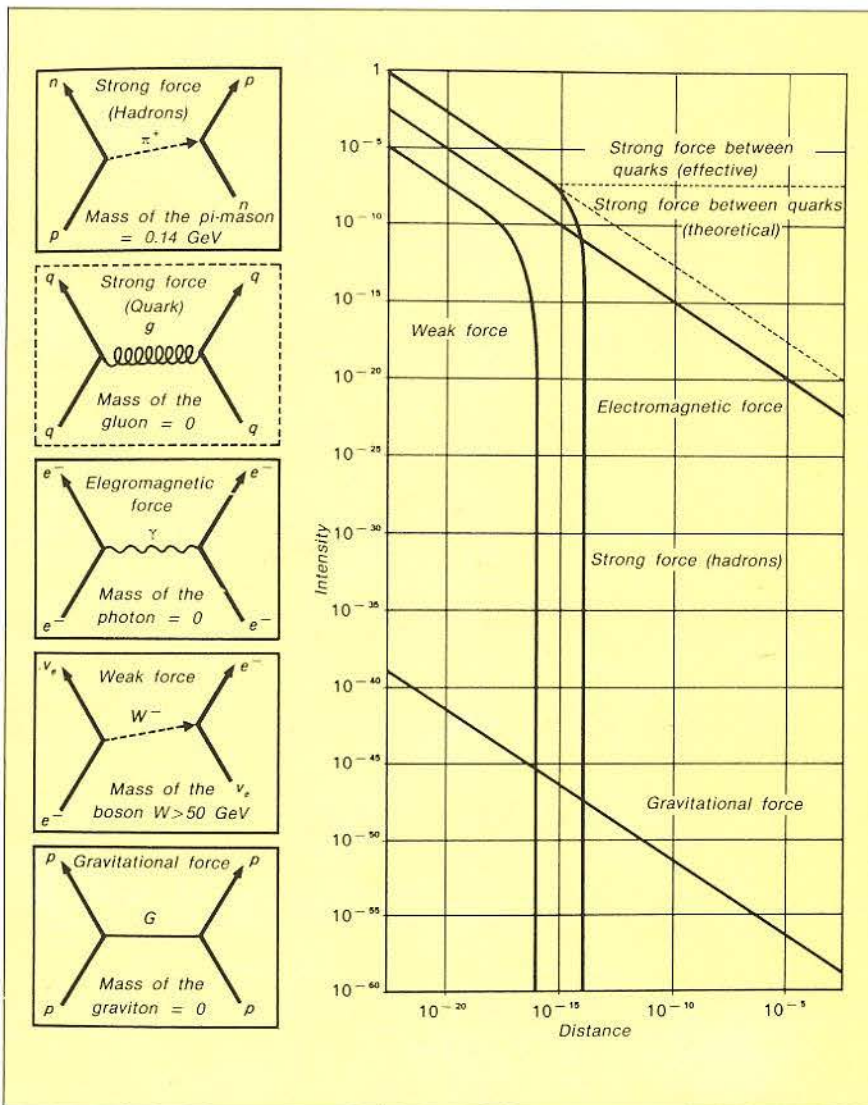
The interaction between two particles (fig. 3) through their interpenetrating fields can be summarized by saying that the two particles exchange a third one, called "field quantum". For example, when two electrons, each surrounded by an electromagnetic field, move closer to each other, to then

move away, one says that they have exchanged a photon, the quantum of an electromagnetic field. The quantum which has been exchanged has only a short-lived existence i.e. it is a "virtual" particle, and therefore cannot be disclosed. Once it is emitted, it has to be reabsorbed, either from the same particle or from another one, but still within the time allowed by the indeterminacy principle. The greater the energy, the smaller the duration of its existence. In fact, a virtual particle borrows or takes possession of a certain quantity of energy, which it has to give back, so to speak, before the discovery of its disappearance. The radius of action of an interaction is correlated to the

mass of the exchanged quantum. If the field's quantum has a great mass which has to be borrowed in the semblance of energy to guarantee its existence, the restitution must be faster before the irregularity can be discovered. So there is a reduction of the distance that the particle can cover before it is reabsorbed, and therefore the corresponding force has a short radius of action. In the particular case in which the exchanged quantum has no mass, the radius of action is infinite.

The number of components in a field corresponds to the number of quantum mechanical states of the field's quantum. The number of possible states, is in turn correlated to the

Fig. 3 Interaction between two particles



intrinsic spin of the particle. The spin can only have discrete values; when one measures the absolute magnitude of the spin in base units, it is always integer or semi-integer. Moreover, it is not just the spin's absolute magnitude to be quantized, but also its direction or orientation. (To be more precise, the spin can be defined by a vector parallel to the spin's axis and the projections, or components, of this vector along any direction in space must have whole or semi-whole values). The number of possible orientations, or spin states, is equal to twice the spin's absolute magnitude plus 1. So a particle, like the electron, with a spin equal to $1/2$, has

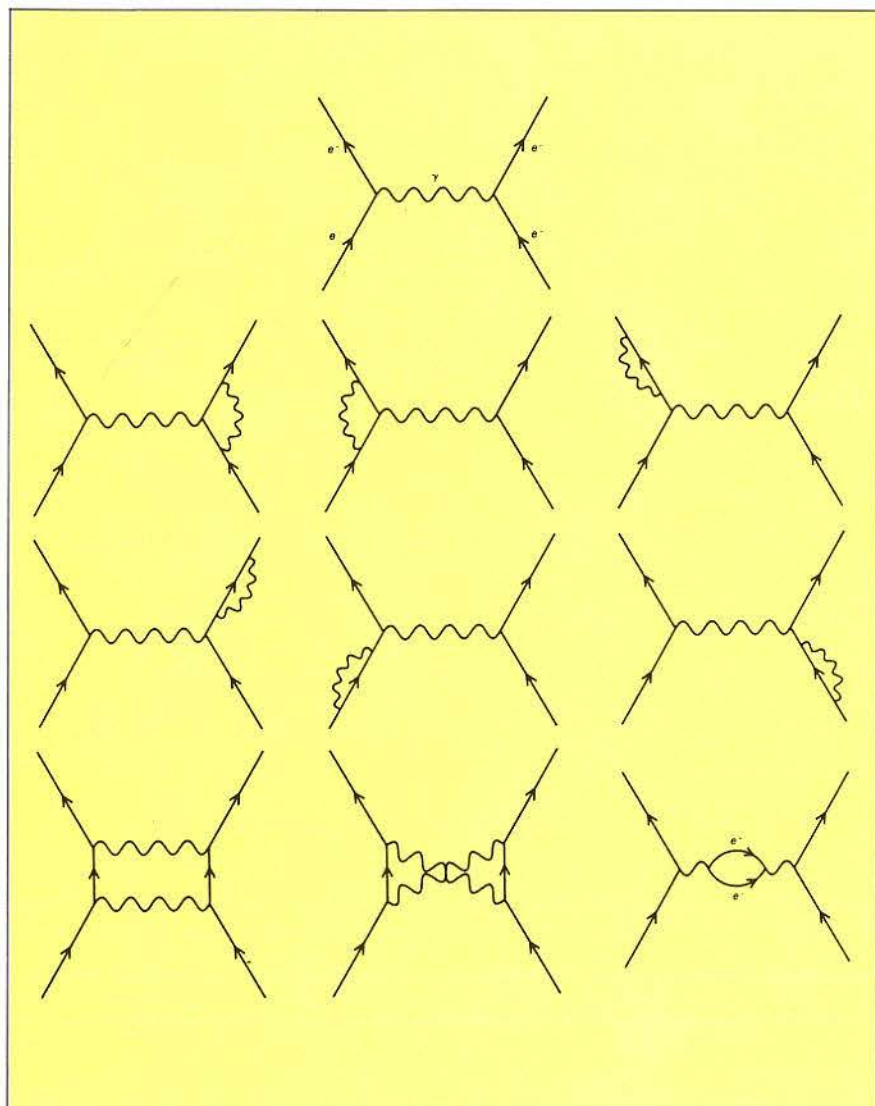
two spin states: the spin can be parallel or antiparallel to the particle's direction of movement. A particle with spin 1 has three orientations, i.e. parallel, antiparallel and transversal. A particle with spin null does not have a spin's axis; since all the orientations are equivalent, it is said that it has only one spin state. A scalar field with only one component (one absolute magnitude) also has to be represented with a field quantum with one component, or in other terms with a particle with spin null. Therefore such particles are called "scalar".

In the same way, a three-component vector field requires a 1 spin field quantum with three spin states: a vectorial

particle. The electromagnetic field is a vector field and the photon, in conformity to such requirements, has a one unit spin. The gravitational field is a more complex structure called tensor and has ten components; but not all of them are independent and the field quantum, the graviton, has a two-unit spin, which is usually equal to five quantum states. In the case of electromagnetism and gravitation it is necessary to take into account a further complication. Since the photon and the graviton have no mass, they always have to move at the speed of light. Because of their speed they have a property which is not common to particles with finite mass: states with transversal spins do not exist. Though in a kind of formal way the photon does have three spin states and the graviton five, in practical terms only two of the spin states can be detected.

The quantum field theory teaches us to consider any process as the sum of individual processes, each represented by a Feynman diagram (fig. 4). This useful method of displaying subnuclear events, was created about 25 years ago by Richard P. Feynman, and it allowed to solve the great problem which had tormented the quantum field theory from birth: the problem of infinities. These problems at the beginning made quantum electrodynamics seem a theory which could not be accepted physically. The initial attempts to calculate the result of the most simple electromagnetic interactions were rather discouraging: it was found that the contributions of the more complex processes concerning the exchanges of the single particle were usually infinitely great. In fact, the electrostatic repulsion inside a single electron creates infinite self-energy which manifests itself when a photon is emitted or reabsorbed by the same electron. These infinities are created only in the Feynman diagrams with loops and can be drawn in the infinite ways in

Fig. 4 Feynman diagram



which energy and momentum can be transmitted along the loop from one particle to another. As demonstrated above, the maximum energy of a virtual particle is limited only by the time needed for it to reach its destination. When a virtual photon is emitted and reabsorbed by the same particle, the distance covered and the time needed can be reduced to zero and therefore the maximum energy can be infinite.

And this is exactly what seems to have happened with the problem of infinities. Since the Forties, a group of young theoreticians, who studied independently (Feynman was then at Cornell University, Julian Schwinger at Harvard University, Freeman J. Dyson at the Institute for Advanced Study and Sinitiro Tomonaga was in Japan), found that a certain limited group of theories concerning the infinite's field, act only as "renormalizations" or corrections of the fundamental parameters of the theory (for example masses and charges) and can therefore be eliminated if the renormalized parameters are identified with the measured values listed in the tables of the fundamental constants. For example, the measured mass of the electron is the sum of its "bare" mass and the mass associated to its electromagnetic self-energy. This seems an absurdity, enough to make one suspicious of this trick of the renormalization. In any case, a more accurate analysis has demonstrated that all magnitudes with unplausible values cannot be observed, not even in principle. A simple version of the field theory for the electromagnetic interactions could be renormalized in the sense that the infinities could be eliminated with a renormalization of the mass and charge of the electron. But that was not all: it allowed to make calculations concerning electrodynamics, with an agreement with the experiments that had never been seen in the history of physics. So, the theory states that the value of

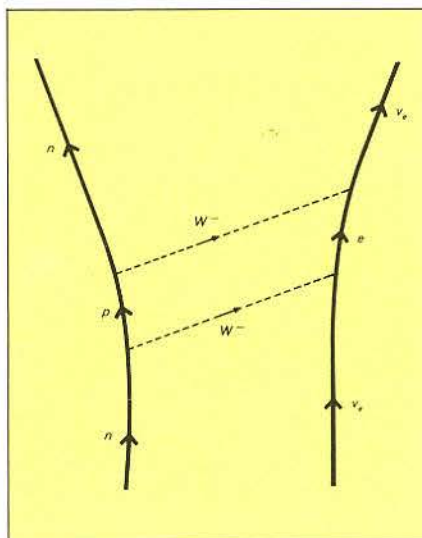


Fig. 5 Neutron-neutrino diffusion

the electron magnetic moment (in natural units) is 1.0011596553 while the observed value is 1.0011596577. The uncertainty of the two numbers is in the non-figure after the point: 0.0000000030. Even though the method's logic and internal coherence leave some doubts, the theory's best defence is simply its success.

Despite this incredible success, the attempts to create this kind of field theories, for the other interactions concerning elementary particles, have been for a long time vain. For the strong interactions there were some possible theories that could be renormalized; instead the problem was (and still is) that the interaction's intensity made useless any simple approximation scheme introduced to obtain some forecasts from a given field theory which could be proved experimentally (in a few words, the probability of exchange of a group of strong interaction particles in a high energy collision is independent from the number of exchanged particles, so they must be considered as very complex exchanges). For the gravitational interactions there exists a well-known field theory, i.e. Einstein's general relativity theory, which works very well for phenomena in the solar

system scale, but cannot be renormalized and therefore probably needs a few alterations for short-distance phenomena. In this case the problem is the contrary of that of strong interactions: the gravitational effects are so weak that to find the correct theory it is not possible to use experimental measures, at least not yet. Weak interactions present an intermediate situation: they are intense enough to allow to make approximate calculations. Even if it is said that weak interactions are similar to electromagnetic interactions, the theory, as it was up to a few years ago, could not in any case be renormalized. To be more precise, the exchange of couples of intermediate vector bosons in processes such as the neutron-neutrino diffusion (fig. 5) creates infinities that cannot be eliminated with a renormalization of the theory's parameters. So, even if the intermediate vector bosons' quantum field theory has offered an excellent approximated picture of the observed weak interactions, it failed as soon as it went slightly further than the lowest approximation.

What difference is there between photons and intermediate vector bosons to make the elimination of infinities so hard for the latter? A detailed analysis gives the possibility to attribute such difference to the fact that the photon's mass is null, while the intermediate vector boson has a ponderal mass. As all other particles with mass null, the photon can exist as superposition in up to two pure states, characterized by a left or right circular polarization, in which the direction of the axis of rotation is either equal or opposite to that of movement. On the other hand, as any other heavy particle with an angular momentum equal to Planck's constant, the intermediate vector boson can exist in any one of three states, characterized by an axis of rotation oriented in the

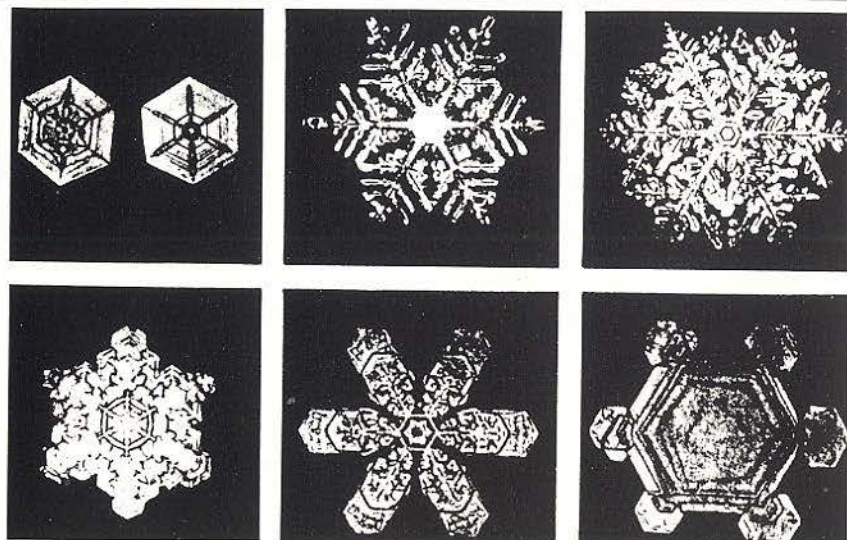


Fig. 6 Hexagonal symmetry of a snowflake

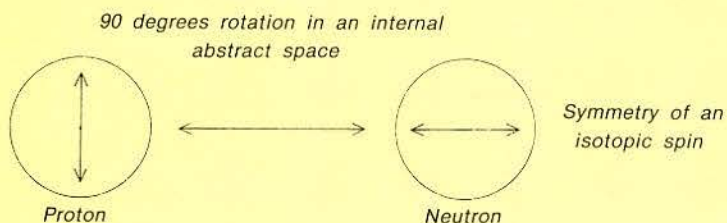
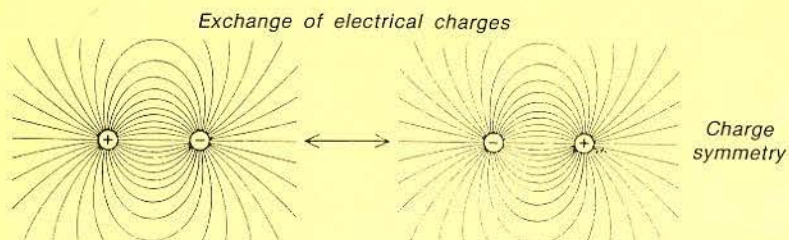
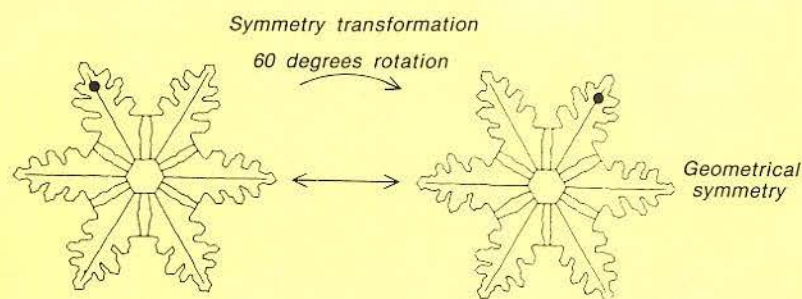


Fig. 7 Different types of symmetry

direction of movement, in an opposite direction or in a direction perpendicular to it. It is the exchange of the

intermediate vector bosons whose axis of rotation are perpendicular to the direction of movement which creates the

presence of infinities that cannot be renormalized.

But recently the answer to this new and more difficult problem of infinities has been found, through very important conceptual steps, i.e. with the use of symmetries and the union between electromagnetic and weak forces: such solution represents one of the most significant triumphs in the field of elementary particles.

One of the physicists' oldest ambitions is that of creating a single theory to employ as guide, including all known forces. It is thought that this kind of theory could reveal some deep connexions among the various forces, simultaneously accounting for their evident difference. Such union has not been achieved yet, but it is probable that in the last few years some progress has been made. Nowadays, the weak force and electromagnetism can be interpreted in the context of a single theory. Although the two forces remain different, in the theory they appear mathematically interconnected. What in the end might appear as more important is the fact that all four forces are now described through the same theories which have the same general form. So, though the physicists still have to find a single key, right for all known doors, at least all the keys needed can be obtained from the same block. The theories belonging to this particular group are formally called "Non abelian gauge theories with local symmetry". The main aim of this article is to explain what is meant by such a complicated name. For the moment, it will be enough to note that this type of theories connect the forces' properties to nature's symmetries.

Since Galileo's and Newton's times, **symmetries**, and the symmetries which are evident in the laws of nature, have had an important role in the creation of physical theories. The most common symmetries are the spatial and geometrical ones. For example

in a snowflake, at first sight, one can observe the presence of a symmetrical shape (fig. 6). Symmetry can be defined as an invariance in the shape observed as some transformation is applied to it. In the case of the snowflake, the transformation is a rotation of 60 degrees, or of one sixth of a circle. If one notes the initial position and rotates the snowflake by 60 degrees (or by an integer multiple of 60 degrees) no change will be detected. The snowflake is invariant for 60 degrees rotations. According to this principle, a square is invariant for 90-degree rotations, while a circle presents a continuous symmetry because the rotation of any angle leaves it unchanged.

The concept of symmetry, even though it found its origins in geometry, is rather general to include invariances in respect to other types of transformations (fig. 7). An example of non-geometric symmetry is electromagnetism's symmetry of charge. Let us suppose that a certain number of electrically charged particles have been set out in a defined structure and that all the forces acting between the couples of particles have been measured. If now one changes the polarity of all the charges, the forces remain invaried.

Another symmetry of the non-geometrical type concerns the isotopic spin, characteristic to protons and neutrons and to many particles correlated to them, known as hadrons, which are particles subject to the strong force. The symmetry is based on the observation that the proton and the neutron are noticeably similar particles. Their difference in mass is only of one to a thousand and, apart from their electric charge, they are identical in all their other properties. Therefore it seems that if we exchange all protons and neutrons, the strong interactions would be scarcely modified. If it were somehow possible to eliminate the electromagnetic forces (which depend on the electrical

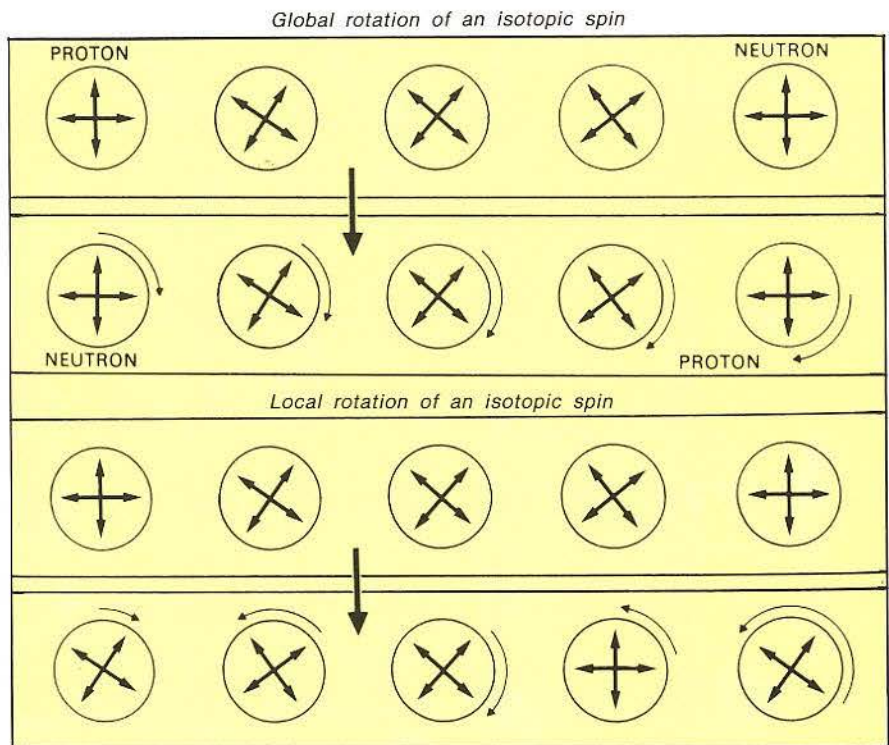


Fig. 8
Global and local rotation of an isotopic spin

charge), the symmetry of the isotopic spin would be exact, while in actual facts it is only approximated.

Even though the proton and the neutron appear as different particles and even if it is difficult to imagine an intermediate state of matter between them, still it is observed that the symmetry of the isotopic spin is a continuous one, more like the symmetry of a sphere rather than like that of a snowflake. I will now explain in simple terms why this is so (fig. 8). Let us imagine that inside each particle there is a couple of crossed arrows, one to represent the protonic component of the particle, and the other to represent the neutron component. If the protonic arrow is directed upwards (the direction meant by "upwards" is not important), the particle is a proton, while if the arrow directed upwards is the neutron one, the particle is a neutron. The intermediate positions correspond to the quantum mechanic superpositions of the two states, and then the particle

appears sometimes as a proton and sometimes as a neutron. The transformation in the symmetry associated to the isotopic spin makes the internal indicators rotate in all the points of the Universe. If the rotation is by exactly 90 degrees, each proton becomes a neutron and each neutron a proton. The symmetry of the isotopic spin, as far as it can be precise, states that no effect of this transformation can be revealed.

And the symmetries we have talked about until now can be considered as global symmetries, where the term "global" means "that it takes place in every point at the same time". In the description of the symmetry of the isotopic spin, this condition has been clearly specified: the internal rotation which transforms the protons in neutrons and the neutrons in protons has to take place at the same time in every point of the Universe.

Apart from the global symmetries, which are nearly always present in a physical theory, it is also possible to have a "local" symmetry in which it is possible to decide an independent convention for every point in space and for

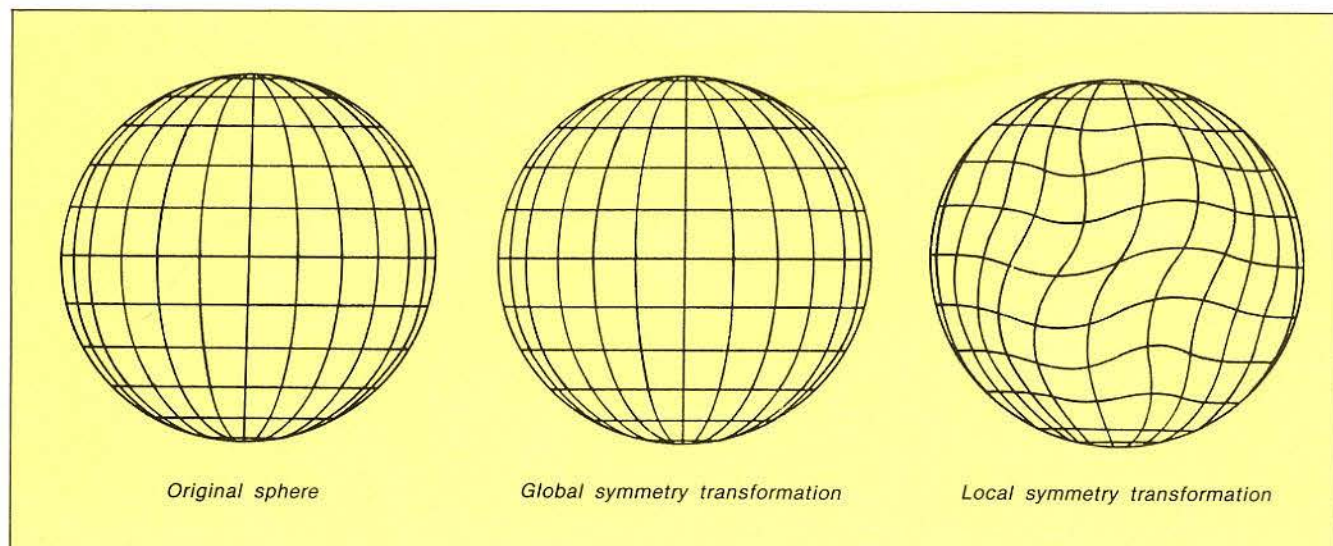
every moment in time (fig. 9). The term "local" could make one think of a more modest domain rather than of a global symmetry, but in actual facts the requirement of local symmetry fixes a much stricter constraint to the creation of a theory. A global symmetry declares that some physical laws remain invariant when the same transformation is simultaneously applied to any point. To be able to observe a local symmetry, the physical laws must keep their validity even when a different transformation takes place in every point in space and time.

Maxwell's theory on electromagnetism is a classic theory, i.e. it is not quantum-mechanical, but a symmetry correlated to it can be

demonstrated in the quantum theory of the electromagnetic interactions. In such theory, to describe the electron as a wave or as a field, there is the need for a convention which in quantum mechanics can be used for any material particle. It seems that in the electron's quantum theory a variation in the electric potential implies a phase shift of the electron wave.

It is important to underline that this field is not the electron's electric field, but it is a material field. It would exist even if the electron had no charge. What is defined by the field, is the probability to find an electron in a certain spin state in a given point and at a given moment. The probability is given by the sum of the squares of the real and

imaginary parts of the field. In the absence of electromagnetic fields, the frequency of the oscillations in the electronic field is proportional to the electron's energy, while the oscillations' wave length is inversely proportional to the momentum. For a complete definition of the oscillations, it is necessary to know a further magnitude: the phase. The phase measures the movements of the wave from some point used as an arbitrary reference, and it is usually expressed as an angle. If in a certain point the real part of the oscillation has, for example, its maximum positive amplitude, the value given to the phase at that point would be null (0 degrees). In the point where the real part is annulled, the phase is of 90 degrees, while where it reaches



its negative maximum, the phase is of 180 degrees. Generally the imaginary part is shifted by 90 degrees compared to the real part, so that when one of the present parts shows a maximum value, the other one is null. It is clear that the only way of eliminating the phase of an electronic field is by separating the contributions of the real and imaginary parts of the amplitude. This is impossible, even in principle. We can know the sum of the squares of the real and imaginary parts, but in any point or at any time there is no

way of knowing beforehand which fraction will derive from the real part and which from the imaginary part. Infact, an exact symmetry of the theory implies that the two contributions are indistinguishable. One can measure the field's differences of phase in two points or in two moments, but not the absolute phase. The discovery that the phase of an electronic wave is inaccessible to measurement, has a consequence: the phase can have no effect on the results of any experiment. If it could,

Fig. 9 *Global and local transformation of a sphere*

such experiment could be used to determine the phase. So the electronic field shows a symmetry compared to the arbitrary variations of phase. To the electronic field, one can add or subtract any phase angle without changing the results of all the experiments.

This principle can be explained with an example: the experiment of the electron diffraction from two cracks, which is the best known

demonstration of the undulatory nature of matter. In this experiment a beam of electrons crosses two narrow cracks in a faceplate and then one counts the number of electrons which reach the second faceplate. The distribution of electrons on the surface of the second faceplate forms a diffraction pattern of alternating peaks and valleys.

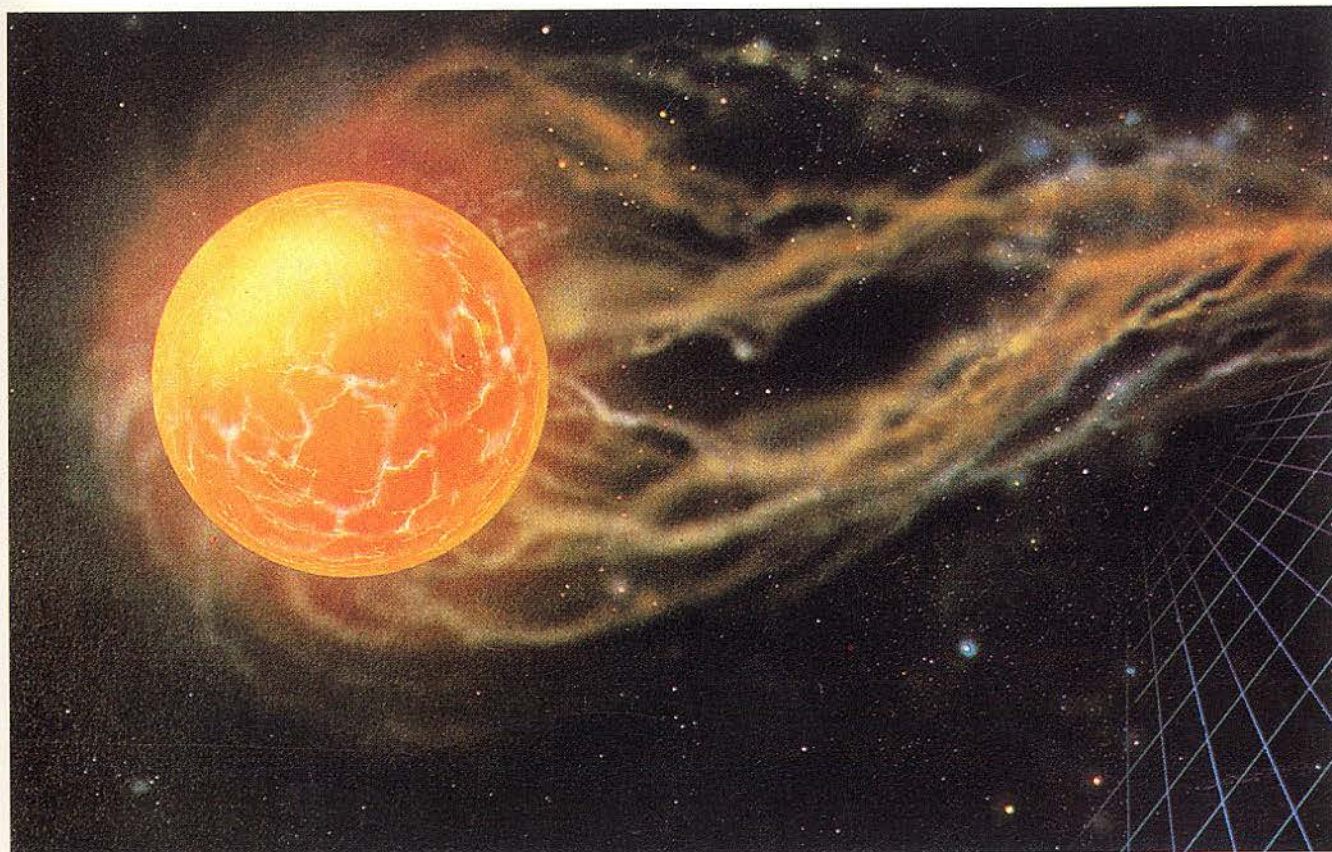
The quantum mechanical interpretation of such experiment is that the electron wave separates itself in two parts when it hits the first faceplate and the two diffracted waves then interfere one with the other. When the waves are in phase, the interference is constructive and on the second faceplate many electrons are recorded, while when the waves are in opposition of phase the destructive interference lowers the calculation. Evidently it is only the difference in phase which determines the pattern formed. If both waves of the same entity were to shift, the difference of phase in every point would not change and

one would observe the same pattern of constructive and destructive interference.

Symmetries of this kind, in which it is possible to adjust the phase of a quantum field, are called "gauge symmetries". Even if the absolute value of the phase is irrelevant for the experiment's results, to create a theory of electrons it is still necessary to specify the phase. The choice of a particular value for the phase is what is defined as "gauge convention". The gauge symmetry is not a very meaningful term for such invariance, but this term has a long story and cannot be ignored. It was introduced around 1920 by Herman Weyl who, in those days, was trying to formulate a theory to combine electromagnetism with the general relativity theory. Weyl suggested a theory which would remain invariant to arbitrary dilatations or contractions of space. In this theory it was necessary to adopt a separate standard of length and time in every point of space-time. He compared the

choice of the scale convention with the choice of the blocks (gauge), blocks of refined steel used by mechanics as length standards. The theory was nearly perfect, with the only need of substituting the "length scales" with "phase angles". Writing in German, Weyl spoke of "Eich Invarianz", initially translated with "calibration invariance", but from then on, in ordinary language, with the alternative translation of "gauge".

The symmetry of a material electronic field described above, is a global symmetry: the field of the same entities must shift simultaneously in any point. It is easy to demonstrate that a theory of only electronic fields, without other forms of matter or radiation, is not invariant compared to a corresponding local gauge transformation. Let us consider once again the experiment of the electron diffraction from two cracks. We carry out an experiment like the one already described, and we record the electronic diffraction pattern; then the experiment is



repeated, but the crack is substituted with a 180 degree phase shifter. The result is that where the interference was constructive in the first experiment, now it is destructive and vice versa. The diffraction pattern observed will be different, with peaks and valleys in exchanged positions.

Suppose we would want to make the theory coherent with a local gauge symmetry. For this purpose it is necessary to add an additional field able to compensate the variations of the electronic phase. The result is that the field required is a vector field, and corresponds to a unitary spin. Moreover, the field must have an infinite radius of action, since there is no limit to the distance at which the phases of the electronic fields could be rearranged. The need for the properties of a field which is already familiar to us: the electromagnetic field. In a few words, the propagation of a material electron wave can be adequately described only if one specifies the electric and magnetic potential in which it propagates. Back to the experience of the crack, the effect of the shifting of the crack can be compensated by a magnetic field. From the resulting pattern, it is impossible to say which of the two processes is in action; it is possible to demonstrate that the argument can be reserved: from the gauge invariance one can derive the existence of electro-magnetism.

So both electrodynamics and general relativity owe their elegance to the existence of a corresponding local gauge symmetry: their success has long inspired theoretical physicists. Not long ago, the corresponding justification for the other types of forces was much less satisfactory. The first step was made in 1954 in a theory put forward by Frank Yang and Robert Mills in the United States, and independently by R. Shaw at Cambridge. The symmetry of the Yang-Mills theory is that of the isotopic spin, the rule

which says that the matter's strong interaction remain unchanged when protons and neutrons change their identity. The local gauge symmetry gives total freedom in the point by point choice of the identity of the nuclear particle. As in the other cases of transformation of a global symmetry in a local one, the invariance can be preserved only if something else is added to the theory, and in this case much more. The laws of physics remain invariant only with the addition of six new fields. They are all vector fields and they all have an infinite radius of action; but they have a positive and negative charge. This has extraordinary consequences: to give an example, two photons with opposite charges could join, creating an "atom" of light. Another improvement was made in 1963 with Feynman's idea of a "phantom" particle, i.e. particles added to the theory during the calculation, but which disappear at the end of it. It is known beforehand that the particle is fictitious, but its use is justified if it never appears in the final state. For this aim it is necessary to make sure that the total probability of producing such a "phantom" particle is always null.

A further step was made at Cern, by Veltman and Bell who, using the properties of the phantom particles, made it possible for the positive and negative infinities to be completely eliminated in the case of one-loop diagrams. By the end of 1970 the situation was clear: with the increase in the complexity of the diagrams there still were some infinite terms which had not been cancelled.

In the meantime, a new mechanism, to provide mass to the Yang-Mills field, was invented by the Scottish physicist Peter Higgs. The idea is that of introducing a new field, with the peculiar property of not disappearing in a vacuum. The majority of fields have minimum energy when the field is eliminated. The Higgs

field is unusual, reducing it to zero needs a waste of energy: the minimum value corresponds to a uniform value greater than zero. How can the Higgs field give mass to the Yang-Mills field? Every Yang-Mills quantum joins together with a Higgs particle, with the result that the Y-M particle acquires mass and the transversal spin states, while the Higgs particle disappears. A picturesque description has been suggested by Abdus Salam: the Y-M particles with mass, "eat up" the Higgs particles so that they acquire weight and the Higgs particles, once swallowed, become phantoms.

The Y-M theory, with the addition of the Higgs field, can be renormalized, i.e. it has no infinities. This was discovered thanks to the Dutch physicist t'Hooft. Quoting his words: "The results of the test were ready in July 1971: the output of the program was an endless series of zeros. Each infinite annulled itself completely". In 1967 Steven Weinberg and Abdus Salam had applied the Y-M model with the Higgs mechanism to the weak interactions. They hypothesized the renormalization finally proved by t'Hooft. Infact, the W-S-G model includes both the weak force and electromagnetism: for this purpose four fields are introduced, instead of the three of the Y-M theories.

The recent discoveries carried out at Cern have shown, with great precision, the validity of such theory. Again, even if aesthetically it is unacceptable, the strength of the theory is the fantastic possibility to predict the experiments.

Finally, as it usually happens when paradoxes are created in science, the problem of infinities presents its pros and cons: the latter because it prevents us from setting out the calculations as we would wish, and the former because, when the solution is found, it is adaptable only to a limited type of theories, among which there is hope to find the right one.

2nd GENERATION IMPROVED ARMOUR MBT
120 mm SMOOTH-BORE GUN - STABILIZATION ON GUN AND LINES OF SIGHT
MAX SPEED: OVER 65 Km/h - CRUISING RANGE ON ROAD: 550 km



'C1-ARIETE' MBT

OTO MELARA ARMoured FIGHTING VEHICLES

'VCC 80' IFV



NEW ITALIAN ARMY IFV
2+7 MAN CREW - 25 mm OERLIKON KBA CANNON
DAY AND NIGHT STABILIZED FCS



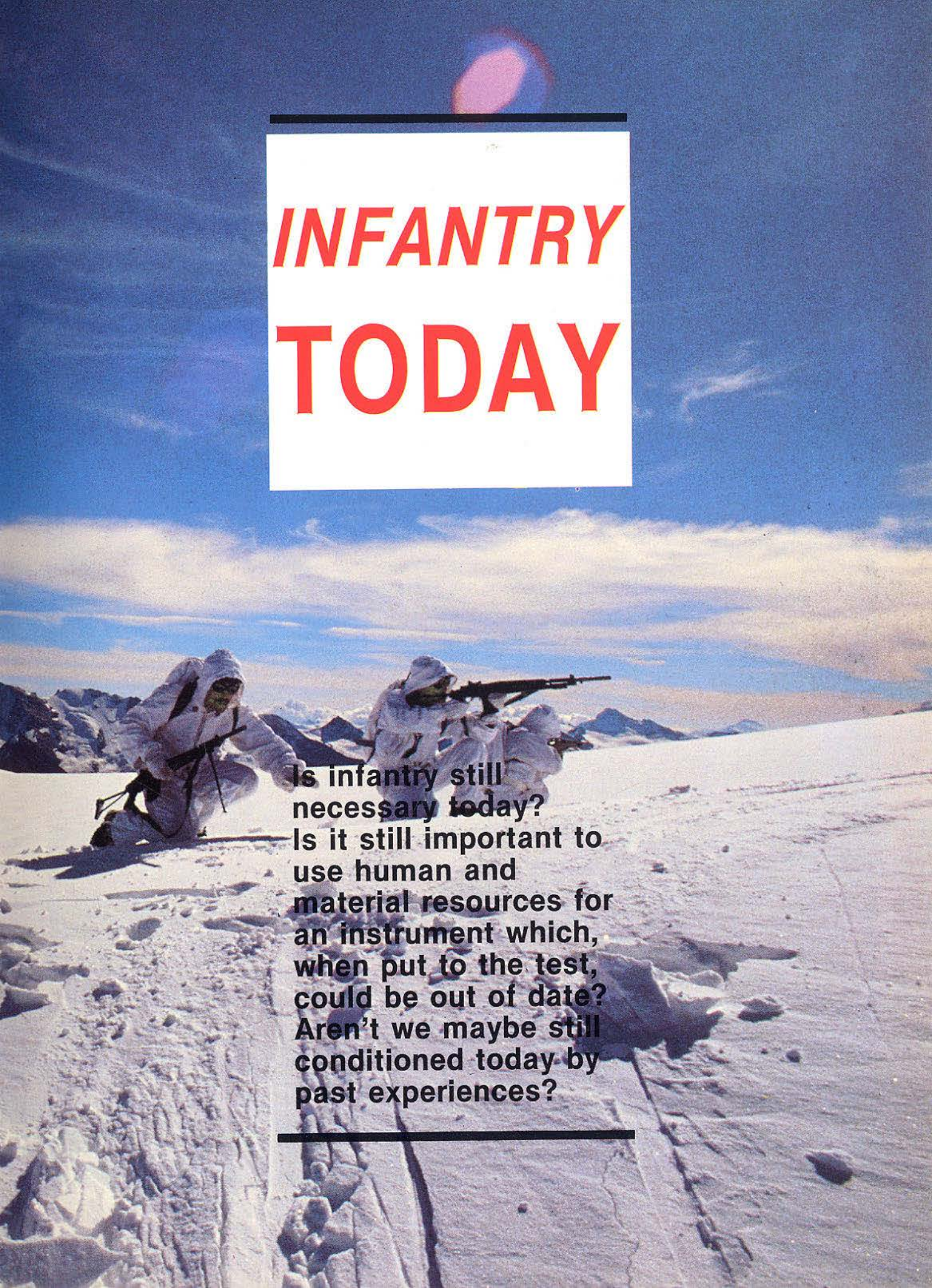
OTO MELARA SpA, ITALY (I 19100) LA SPEZIA, 15 VIA VALDILOCCHI
TEL (39-187) 530 111 - TLX 270368-281101 OTO I - TELEFAX (39-187) 530 669

A Company of the OTO MELARA - BREDA MECCANICA BRESCIANA - OFFICINE GALILEO Consortium

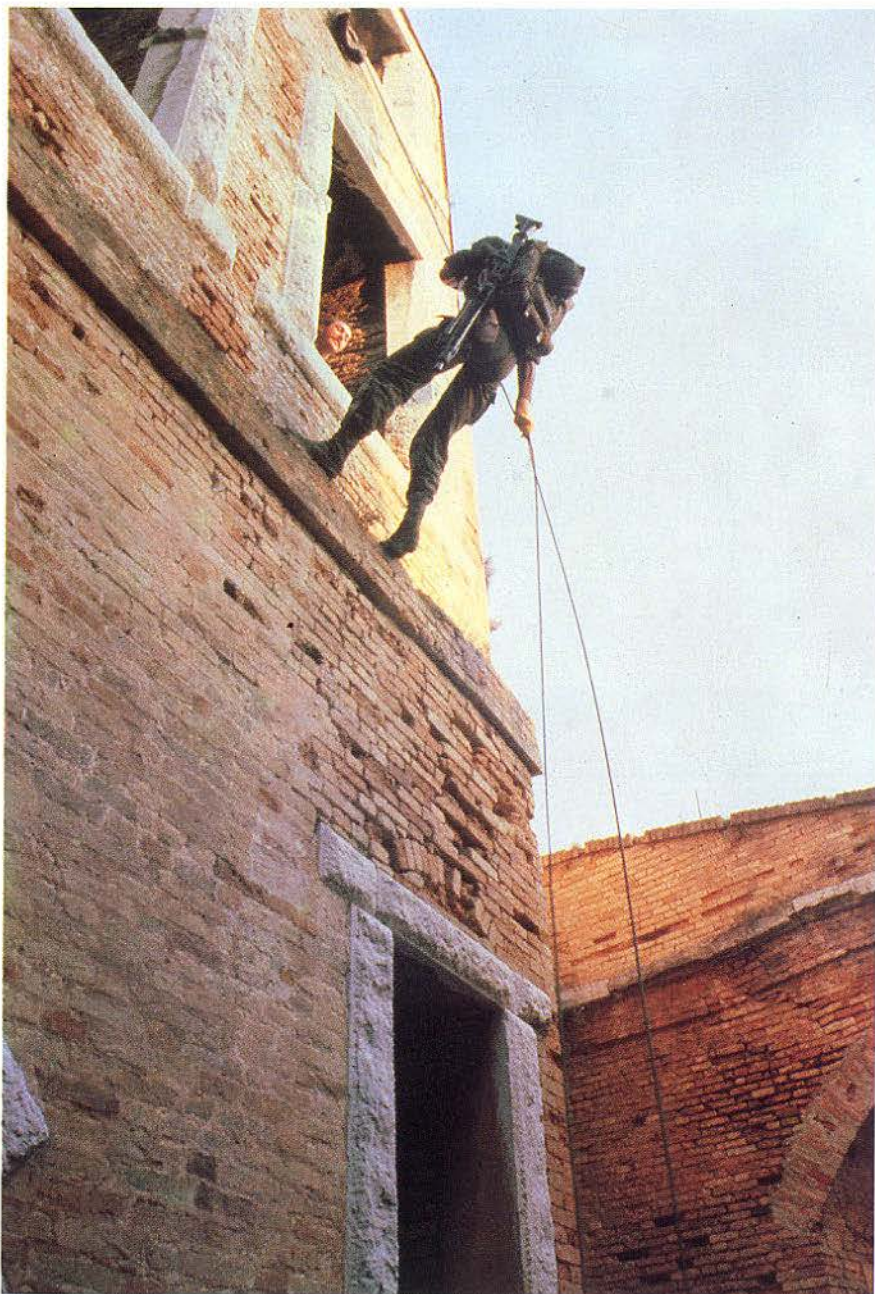
GRUPPO
EFIM
FINANZIARIA
E. BREDA



INFANTRY **TODAY**



Is infantry still
necessary today?
Is it still important to
use human and
material resources for
an instrument which,
when put to the test,
could be out of date?
Aren't we maybe still
conditioned today by
past experiences?



The questions on infantry formulated in the previous page, could no doubt appear as paradoxical. But, the rhetorical picture fades away leaving the real shadow of doubt, when the incredible progress made in all the highly technological sectors is considered: from rocketry to cybernetics, from astronautics to telecommunications, and we stop here only for a question of space. Compared to them, man, thrown alone with his courage on the battlefield, appears strangely small and pathetically

vulnerable, but above all extraordinarily identical to the man of 40 or 70 years ago!

So, is it really useless? Examining the more recent conflicts, from Vietnam to the Middle East, from the Falklands to Afghanistan, the answer seems to be no. But this still isn't an answer. If we do not manage to find the basic reasons, the fact may become fortuitous and contingent and therefore be of no use for a concrete answer to the initial question.

So let us try to analyze it more deeply. We will then find

that: if we take a brave and trained man, we arm him properly and place him in a good position, improved by the right reinforcement measures, that man becomes an extremely problematic objective even for the most powerful arms.

If we now take many of these men and we conveniently place them all around, we have an area which is practically impassable unless... Unless we take other men, just as brave and trained, and we take them to attack that position, to drive out those brave defenders.

And one could now say that here is infantry, risen again from its ashes. But it is too soon to say it. Why don't we try to drive them out using even more sophisticated weapons?

Maybe we could, but if the defence is conveniently spread out, where will we find an arm so precise and selective to be able to hit every point? At the moment it does not exist. The so-called intelligent arms stand a good chance in the practically empty infinite air space, on the never ending expanse of the sea, which is all flat and uniform, but on the ground their "intelligence" is obstructed by woods, hills, houses, mountains, cultivated land, where our defender disappears and, young Antaeus, finds his defence, his protection and his strength in the ground.

One could then try with stronger measures, to destroy everything, to annihilate every living form on a large area.

The operation is technically possible; but in the end, after having created an apocalypse, who can assure us that from that whole, our brave enemy, wounded but alive, won't come out to fight for that strip of land which had been assigned to him?

At this point the initial question is answered: infantry still has a reason to exist. It is therefore unnecessary to bring about more arguments, among which the more evident one would be that regarding the particular forms of fighting, first in line the guerrilla warfare,



where the infantry dominates the field because of its original and innate attitude. But, once we have solved the first point, there is immediately another one, of at least the same importance: which infantry? How will it have to be armed and equipped? How will it have to fight? How will it have to be trained?

The question opens for us such a vast and complex field that we will have to proceed along a main line, without being led astray by secondary or extra problems. Above all, it is necessary to pick out the more significant phenomena from the useless ones, even if they seem more convincing.

It is not an easy task, but we shall try to do it.

We will therefore start by defining the basic needs to which the "weapon system" of the infantry must absolutely answer to be able to operate with the maximum efficiency:

- minimum vulnerability;
- high mobility and reactivity;
- maximum capacities of resistance and interdiction;
- maximum capacities of attack and penetration.

But before continuing with our close examination, it is absolutely necessary to make at least a brief analysis of the scenery in which the action is destined to develop: the battlefield of the near future.

This is in fact the ground on which the opposing forces will have to fight, on which the arms and vehicles will have to confirm their potential efficacy and finally, the arena in which the new ideas will be able to measure themselves with all these realities.

The battlefield of the near future, i.e. an attempt at prediction

At this point, there are many reasons to avoid a detailed description of the future battlefield, but we will only mention the most obvious one: the fact that we are trying to determine the characteristics of one of its principal components. We shall therefore limit ourselves to the indication

and, when possible, evaluation, of facts which are known or doubtlessly predictable, destined above all to show their importance in the use of the infantry.

First of all, the exceptional fire saturation determined by the increase in power of all arms, from the rocket to the individual equipment.

This situation raises immediately another question: what amount of wear would the actions in mass, so frequent in the First and also in the Second World War, have to stand (1)?

Even if no certain mathematical answer can be given, it is right to think that it would be very high.

This brings up some logical deductions which can hardly be confutable: the first priority need to maintain always the maximum spacing out compatible with the need to concentrate the efforts in the desired point and at the desired time; the need to use every form of protection offered by the natural environment; rejection of frontal attacks unless they are imposed by the situation.

Secondly, the connecting possibilities have increased sensibly. This means that there is the nearly total certainty to receive immediately not only information, reports and orders, but also any type of available fire support compatible with the safety distances. Anyhow the point does not end only with the good sides; on the whole system of transmission there is the threat of the electronic war and of its effects: from a simple inconvenience to a total black-out.

Therefore it is necessary for the commanders, at every level, to be perfectly able, on the one hand to use correctly the enormous possibilities offered by an integrated and extended transmitting system, and on the other to solve the situations by themselves, operating on the basis of the orders received and of the aim







of the action (2) whenever communications should fall.

At the third point we could place the reduction of the deployment, consequent to the change in the ratio employed forces/sector of action. Such reduction has as a direct consequence the abnormal dilatation of the empty spaces, in which finds its space that dynamic action which is far too hard to be carried out frontally. But the consequences of this situation do not stop here; the empty spaces cannot be considered *res nullius*, they have to be watched over, hit by fire, partially garrisoned when necessary; in one word they have to be controlled and dominated with no faults.

At the fourth point we can consider the high mobility and the strong increase in the operational speed consequent to the motorization and to the integral mechanization as well as to the passage to the third dimension.

The combination of these factors with the preceding one,

(with particular reference to the possibility of rapidly passing any land obstacle with the transport by helicopter) gives rise to a dual concept destined to change the idea itself of a contact or front line, as it had been devised up to today.

In short, it will not be possible to talk of line of contact, but, more precisely of area or strip of contact, in which the actions will be characterized by a high level of manoeuvre, marked by maximum mobility and reactivity.

In this area, the units will operate on the basis of simple tasks, with large autonomy and remarkable initiative, in a game of actions and reactions based on the trinomial: surprise, quickness and power.

At the fifth point we must place the duel armour/antitank weapons. The balance at this point still exists, but its parameters have radically changed. In effect: nowadays the antitank weapons are much smaller, lighter, easier to move and extremely more numerous

compared to those of the last World War.

But, they are characterized by the initial slow speed which is inevitably linked to the use of the hollow charge.

The armoured units have had to take measures, and there are in production some armour-platings capable of withstanding the effects of the hollow charge. The conclusion that can be obtained from this situation is quite obvious; only the well protected vehicles will be able to operate when in contact with the enemy antitank arms; the others will have to stop at a reasonable distance or face a very high risk of destruction.

Finally, at the sixth and last point we have to examine the logistical implications, with particular attention to what concerns the problem of the provisions for the forward units, above all fuel and munitions. Among other things, modern arms are characteristic for their shooting quickness which, transformed in logistical terms,

means high levels of consumption. At this point the problem becomes more complicated: how can there be a development of the logistical support to the units scattered in large empty areas controlled with fire by both sides? And how will the provisions reach small islands of resistance or units in sudden transfer? Of course, even this problem can be solved by using, when necessary, armoured vehicles and helicopters. But obviously it is a very expensive and hazardous solution, to be integrated with the maximum use of long range fire, which, because of the position of its sources (which are further back) presents less dramatic provision problems.

The greater the integration, the greater the saving of ammunitions of the advanced units and therefore the reduction of the logistical burden.

With the analysis of this sixth point we may say that we have described, at least in its essential elements, the scenery of the future battlefield, taking into account the most relevant elements which condition the employment of the forces.

Criteria of employment

Having recreated the general picture, we are now able to place in it the various blocks, accurately selecting the most appropriate ones.

First of all this infantry will have to be able to operate successfully on any terrain, with the only exception of the vast areas with absolutely no obstacles, in which the action will be mainly conducted by armoured units, even if not by these alone.

But it will not be able to operate alone. The close cooperation of all the other Branches will be essential.

Spacing out, quick concentration, great flexibility and maximum reactivity will have to be constant rules of action. Therefore an extremely high level of mobility and promptness will be absolutely



necessary, which by itself will guarantee the full capacity of taking advantage of the favourable situations or of stopping the sudden threats, typical of the open battles.

Surprise will have to be looked for in every circumstance.

Infiltration will be a procedure to be applied whenever possible.

Short range exploration and safety, to be carried out with the intensive and widespread employment of surveillance patrols and vehicles, will have to guarantee the control of the empty spaces without solution of continuity.

The protection from observation will have to be systematically looked for in the natural environment and in camouflage; protection from fire will be found in the armour-platings or in the ground, including therefore the inhabited areas. The deployment fronts will have to take into account the increasing firepower of the individual arms and be spread

out to the same degree.

Even the minor units will have to operate at a higher level of autonomy, without fear of isolation, and will have to get used to facing the enemy from every part, from the sides, from the back or from the air. Finally, a greater speed of action and reaction will have to guarantee the possibility of anticipating the enemy in every circumstance.

Having briefly described the general picture which will have to characterize the employment of the infantry units, we now only have to analyze more deeply some of the more relevant details, at least because they underline a break with the trends and methods used in the last few years by many armies:

- first of all we can state that, in nearly all the cases, not only will infantry fight on foot, but it will dismount at a reasonable distance from the enemy.

This is so not only for the armoured, paratrooper, or Alpine units but also for the mechanized ones.



A vehicle that can only take a minimum advantage from the protection of the ground, represents a very desirable target for short range antitank weapons which literally swarm on the battlefield; they are not very effective against the strong armour-platings of the tanks, but they are still capable of piercing the weaker ones of the infantry combat vehicles.

A solution to the problem could be found by making the vehicles resistant to the fire of the lighter antitank weapons.

This would mean increasing their armour-plating and weight, i.e. transform them into tanks, which possibly could move closer to the positions which have to be attacked.

But, when motorized infantry has to fight, it is usually to open the way to the tanks which have been stopped by the enemy fire; in these conditions, will the infantry combat vehicles be able to move beyond the line of the tanks? This time the question leaves no alternative;

- when attacking, the last 200-250 metres are the ones on which the final and most critical phase of the fighting takes place. Its weight falls totally on the units which are directly employed, because here fire support is largely conditioned by the safety bonds.

To facilitate the passing of these last metres, the minor units tend to be equipped with an ever greater number of effective offensive and defensive weapons.

Even though it is justified, this tendency ends up by heavily loading the individual men (3), even if the most modern armament (which among other things "eats up" munitions at a very high speed) offers a partial remedy with the reduction of calibres and therefore of weight. But to take the best advantage of the ground, to move and hide quickly, to face the enemy at close distance, the fighter must carry the least weight possible.

So let's give the assaulter

all that is essential for a close fight, and nothing else.

But, let's put him in the condition of receiving, from arms of different type and effectiveness, a fire support even at very short distances. For this purpose there is the need of immediate and direct connections, and naturally of precise and flexible arms for high- and low-angle fire, that can operate at various ranges with the maximum possible safety. But, above all, infantry will have to be accustomed and trained to push itself to the limit of the safety distances, and when necessary to pass them. Taking advantage of the backing up and covering fire "by the millimetre", the assaulter will no doubt run a risk, which in any case is inferior to the one to which he would have had to expose himself if he had to open his way by himself alone; another point has to be analyzed, still concerning the attack. In the past, also recently, the continuity and strength of the

defensive structures excluded the manoeuvre of the minor units, leaving it to the higher levels.

Nowadays, such limitation has no reason to exist. The reduced size of the defensive structures and the empty areas in which the action finds its natural space allow the manoeuvre at every level. Consequently, whenever possible, the attack must develop and combine itself according to a precise plan, capable of exploiting to the maximum space, time, fire, terrain, mobility, surprise and cooperation.

Certainly, this will produce more economical, articulated and fluid actions and, above all, it will allow to take advantage of the units' highest training level and the commanders' higher capacity of conduct;

- similar considerations can equally be made for defence.

Nowadays the word "outflanking" still conjures up images of ineluctable catastrophe. Saying it in front of a group of young soldiers, it is easy to see a look of dismay in their eyes. Well, this attitude must change. In battle, without continuous fronts, being overtaken by the enemy is a fact that must be taken as a normal event, to be faced with great decision but without excessive worries.

The opposite alternative, i.e. the withdrawal after a simple threat of encirclement, is like leaving a little at a time the whole sector which had been assigned to us, without fighting.

It is essential, though, that the encircled units be not left alone; their resistance will be exploited to guide and wear out the enemy progression, but still in the context of a dynamic organization of the defensive action;

- of exceptional importance is the patrolling of the empty areas, to report any attempt of infiltration on the enemy's part, to inflict a first pause, to acquire some time for counter-manoeuver; in a few words, to maintain the control of the non-occupied areas.

This action must never be transformed in a sterile dispersion of forces, but rather

rely on the great mobility and reactivity of the few patrols engaged, on the possibility of timely support of the action and on the effective employment of the surveillance measures.

At this point it is clear that we are facing a new type of patrol, with complementary exploration, safety, liaison, combat and observation tasks. It is therefore an activity which requires a staff with a very high level of preparation;

- as for the general conduct, it is clear that, on a battlefield like the one we have described, the units have to operate in a very individual way, but ready to quickly join together, to a concentration of forces and fire capable of obtaining a degree of superiority over the enemy in the desired point and at the desired time.

Great effort and capacity will be asked of the commanders at the lower levels, who will have to operate with audacity, initiative, high professionalism, ascendancy on their men, promptness in taking decisions.

Today, without these qualities, it is impossible to operate and survive, and it is even more impossible to guide a unit in combat;

- this statement allows us to focus on the last problem, training.

On this subject we do not need a lot of observations, since one is more than enough: only a perfectly trained infantry will be capable of carrying out the tasks and applying the methods we have indicated.

When facing the strong forces acting on the future battlefield, all those who are not tough enough are fatally destined to succumb.

CONCLUSION

In the last World War, the infantry of all armies has withstood the greatest weight of the fights. A testimony to this are the percentages of the losses, but also, and above all, the long list of units which we find in the reports of all major battles.

More or less similar to this, is the picture of the conflicts in the last forty years.

Anyhow, it is possible that, in future, "star wars" will change the war's parameters to such an extent that they will determine its final end.

But this moment and this hypothesis belong to such a distant future that it is impossible to make any real forecast based on rationality and logic.

Today, infantry is needed and will be needed in the near future, but it has to live side by side with the high technology which is a characteristic of the modern battlefield. The new weapons and the new equipment, which have not changed its role, force us to use certain methods of employment, and the penalty for not doing so is the impossibility of accomplishing the assigned task.

Every effort must be made in this direction, predicting reality's developments and connecting our choices to them.

It is not an easy task, because the experiences and ideas of the past are a great burden, and there is no laboratory available to test the new ones. But it is necessary to do it, facing with full awareness even the fact of making some mistakes, because no doubt this will be preferable to starting tomorrow's war from the last day of yesterday's war.

Lt. Gen (ret.) Giuseppe Caccamo

NOTES

(1) To give a banal example: a platoon attacking a squad in defence will not have to face an automatic weapon and eight ordinary rifles as was the case in WWII, but nine automatic weapons, all capable of hitting, with a suitable amount of fire, the area in front of the defensive position.

(2) As is known, the attainment of the aim indicated by the higher level is the goal which every commander must pursue when finding himself in a position that makes it impossible for him to carry out his task.

(3) To speak of a by now classic weapon, one minute of theoretical fire of a MG42/59 means the consumption of 800 rounds, which is equal to 20 kg in weight.

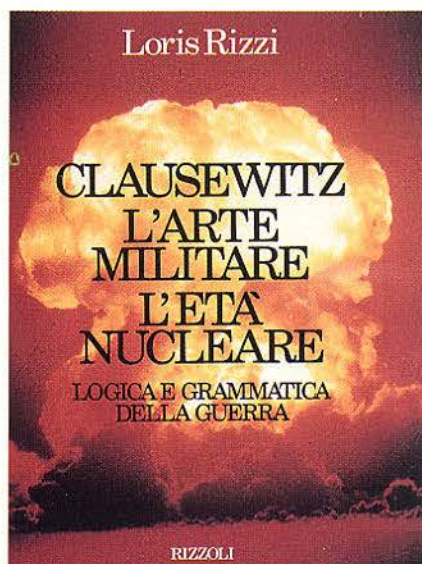


EVOLUZIONE

NARDI

NARDI COSTRUZIONI AERONAUTICHE SPA • NARDI SISTEMI ELETTRONICI SPA • AERONARDI SPA





Loris Rizzi: "Clausewitz - L'arte militare - L'età nucleare" (The Art of War - The Nuclear Age), Rizzoli, Milan 1987, 304 pages, 24,000 Lire.

Starting from the '70s a number of scholars have "rediscovered" the theories expounded by von Clausewitz and concluded that they still maintain a perfect freshness and vitality also in the nuclear age.

In the immediate post-war period the teachings of the Prussian general had been criticized. Some believed that Clausewitz was "dead" and that the advent of nuclear weapons had completely modified — if not overturned — the relation between policy and war and so deeply transformed the internal mechanisms of the war phenomenon as to make the previous theorizations completely useless and out of date.

At the same time it was believed that the technological side of strategy would overshadow all its other aspects, particularly the social, historical, political and geographical ones, which up to then had prevailed in the military studies. The "rediscovery" of Clausewitz is largely derived from the realization that the nuclear weapons did not abolish war. They have only changed its role and its executive methods as well as the usefulness and acceptability of military strength as a means for attaining political objectives in an international system which in its conflictual substance has remained as it was in the past.

The wealth and validity of the Clausewitzian thought emerges with all its strength from Loris Rizzi's interesting study.

The volume is divided into three sections. In the first, the author very conveniently sketches a profile of the Prussian general and describes his times and the cultural and professional experiences which have had a direct influence on his thought.

The second part is devoted to a scrutiny of Clausewitz's writings, with an exhaustive comparison of the contents of his main work, "On War", — whose interpretation is often difficult and much disputed, also because it was left unfinished and in need of a review in many of its parts — with his minor writings. The result is a complete picture of the theory related to the war phenomenon and the internal mechanisms which govern it. Of particular interest are the parts that criticize the existence, the validity or the usefulness (which is all the same, in substance) of the so-called principles of the Art of War, for the greatest part tautological little rules which are valid only for those who, in order to act, need to be backed by truth and do not realize that in action, especially in a competitive action influenced by aleatory events, reality is created rather than known.

The last part deals with war and nuclear weapons. In our opinion, this is the less sound part of this nevertheless excellent work. The nuclear weapons have undoubtedly caused a discontinuity in the war phenomenon. The so-called nuclear strategy, which is not a real strategy — it is in fact a "non-strategy" — has in itself fundamental paradoxes which, in a sense, have brought the armed conflict between nuclear nations back to the pre-Clausewitz times, or indeed to pre-Napoleonic conditions. These wars were extremely limited, because the dynastic armies represented a wealth difficult to rebuild in a short time, and could not be squandered in battle, since they were the cornerstone of the internal political power held by the European absolute monarchs. The French Revolution, nationalism and industrialization had entirely transformed this situation, by radicalizing and transforming limited war into global conflict. The nuclear weapons have had the opposite effect. Nuclear deterrence, which is a bilateral defensive conflictual position, is nothing but a complete minimization of the war violence, based on the potential — non actual — employment of nuclear weapons. Nevertheless deterrence falls within, or can be considered within, the organic rationality of Clausewitz's war theory. In a deterrence environment, it is perfectly acceptable that weapons should play only a negative role, without losing, nevertheless, their subordinate and instrumental character vis-à-vis the political goals. The attempts to erode deterrence from above, through the research on antimissile shields, or from below with the "conventionalization" of defence and the measures of armaments control, such as the "zero option", have no meaning in themselves, but become rational within the framework of political calculations and goals. Without relating the logics of policy to the military grammar, it is impossible to completely understand the latter. At least, one risks the inversion of ends and means, transforming the latter into autonomous objectives proceeding, outside any form of control, according to their internal evolutionary mechanics. The revival of a war theory, updated of course according to the

modern conditions, makes us aware of reality, enables us to guide its development instead of being guided by it, and permit us to place the violence of passions and the autonomous evolution of technology under control of political reason.

This is in substance what this book, which we warmly recommend, proposes to remind to all its readers.



Pietro Pastorelli: "La politica estera italiana del dopoguerra" (The Italian Postwar Foreign Policy), Il Mulino, Bologna 1987, 269 pages, 26,000 Lire.

This volume contains a collection of essays written by one of the most prominent scholars of the Italian postwar international policy and is furnished with very interesting and exhaustive bibliographic notes.

It is a precious contribution to the understanding of one of the most crucial times of our national history, the period after WWII, in which Italy made the fundamental choices regarding its international position, its foreign policy, its security and defence.

We consider of particular interest the essay on Italy's adhesion to the Atlantic Treaty. This essay must be related to the one concerning the crisis that affected the Italo-American relations in March 1948, i.e. before the historical "turn" brought about by the April election. The Italian halfhearted request for admission to the European Union, urged by the United States, as well as De Gasperi's refusal to accept arms from the United States before the election, were considered by Washington a sign of the duplicity or, at least, of insecurity of the Italian government.

This is what made Truman and Bevin oppose Italy's entrance into the Atlantic Alliance. An opposition which was removed only after a firm French intervention, which derived from France's interest to include Algeria within the territorial boundaries of the North Atlantic Treaty — having its



status acknowledged as a metropolitan territory and not a colony — as well as to anchor Italy to the West, in order to increase the security of the French southern borders.

It is very interesting to note the connections between Italy's internal and international problems, as well as the

possibilities and limitations deriving from its state of inferiority which was due to the defeat and to the oppressive conditions dictated by the peace treaty. It is equally interesting to notice how in those crucial years Italy's political class and diplomacy managed — in a most brilliant way — to overturn the country's state of international

inferiority, considerably improving its position, paving the way for its reentry into the international community and laying the foundations for a framework of external security which, having favourable reflections also on the interior, made the national post-war reconstruction possible.

Carlo Bess

**ARMAMENTO INDIVIDUALE
DELL'ESERCITO PIEMONTESE E ITALIANO
1814 - 1914**



A. Bartocci - L. Salvatici:
"Armamento Individuale dell'Esercito Piemontese ed Italiano 1814-1914" (The Individual Armament in the Piedmontese Army and in the Italian Army 1814-1914), volume II, 85,000 Lire (25% discount to military personnel).

Since the appearance of the first part of this complex work by Alfredo Bartocci and Luciano Salvatici on the armament of the mounted Corps, the lovers of this genre have been waiting for years for the appearance of the second volume.

After nine years, the eagerly-awaited book has been published at last. It has twice as many pages (the format is the same: 34.5x24.5) and deals with the armament of infantry, artillery, engineers, General Staff, fortresses and administrative services.

The volume has been edited with accuracy and meticulousness, so much so that we hope that the third and last book of the series, which deals with the Carabinieri, Treasury Police and National Guard, is published soon.

The first part of the volume illustrates the history of the Corps and includes about 60 period photographs and a number of drawings. There is a description of the Royal African Troops and Colonial Troops, with their

equipment and references to their uniforms.

The second part consists of 92 plates with about 800 scale drawings of weapons with the relevant details, markings, etc.

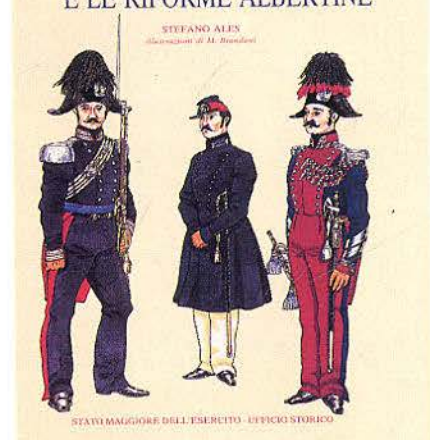
The text, very detailed as regards technical and historical data, is placed on the page facing the plate. Moreover, the work is enriched by over 200 official regulations concerning the subjects considered, as well as by a bibliography, listing regulations and official sources.

With their joint work, Bartocci and Salvatici have, inter alia, also fixed a clear and precise nomenclature of the Italian individual firearms and sidearms of the period considered.

To sum it all up, this text is of considerable interest, not only for amateurs, collectors, antiquarians and students of uniforms but, above all, for scholars and museum indexers.

Gianrodolfo Rotasso

**L'ARMATA SARDA
E LE RIFORME ALBERTINE**



Stefano Ales: "L'Armata Sarda e le Riforme Albertine" (The Sardinian Army and Carlo Alberto's Reforms), History Office of the Army General Staff, Rome 1987, IV + 384 pages, illustrated, 30,000 Lire.

This book is a continuation of the one edited by the same author on the Sardinian Army during the Restoration. If significant military reforms were carried out then, the same occurred during the period considered

by this volume.

It was unavoidable that the Paris revolution of 1830, that led to the fall of Charles X of Bourbon — the King restored after the decline of Napoleon's star — and the accession to the throne of Louis Philippe d'Orleans, had repercussions also in Piedmont.

The new French Government had proclaimed the principle of "non intervention" when Belgium had freed itself from the Dutch domination. This position was soon interpreted as a "go-ahead" by the independence movements of many national communities and resulted in the uprising against the Czar in Warsaw, the insurrection in Modena and the rebellion in the Pontiff's State. These latter were put down by the intervention of the Austrian arms.

In April 1831, Carlo Felice died in Turin, and Carlo Alberto acceded to the throne. The King, worried by the restlessness spreading throughout his kingdom, made a secret military agreement with Austria, with a view to having its backing and help in case of need.

Carlo Alberto, despite his former sympathy for the insurgents of 1820, was not a liberal monarch. But it is undeniable that he carried out sound reforming activities in many fields of his administration. He was moreover very suspicious of the military caste, as evidenced by the harsh repression in 1833 of the penetration of Mazzini's ideas in the Army, especially among the lower ranks.

The present work, like the mentioned preceding one, is divided into three parts devoted to the structures of the Army, to clothing, equipment and armament, and to illustrations.

The first part, 8 chapters, describes the reforms in the Army organization which, started by the King already in 1831, are tied to the name of the War and Navy Secretary, Marchese Emanuele Pes di Villamarina who was appointed in 1832 and held his position for fifteen years. The author examines the new structures concerning both combat units and services, as well as the special corps and bodies; describes the activities of schools and academies; deals with conscription, promotions, discipline, training, administrations (one for war in general and another for artillery, constructions and fortifications).

He outlines moreover, the activity of the medical corps, of the remounting service and of military justice.

The second part, which opens with an introduction by the author, presents a scrupulous treatise on the mentioned subjects of clothing, equipment and armament.

The treatise extends from chapter nine to chapter seventeen, with a precision

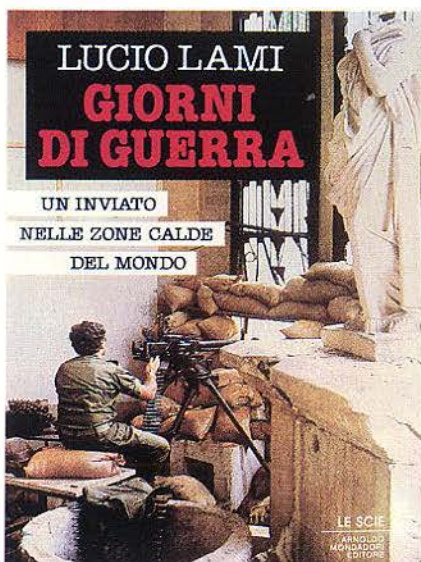


showing that the author can master very well this complicated matter.

The third part assembles 93 plates, bichrome or full colour, executed by Massimo Brandani, a well-known illustrator of military subjects.

The work is completed by a list of bibliographic sources.

Paolo Riccioni



Lami: "Giorni di guerra. Un inviato nelle zone calde del mondo" (War days. A Correspondent in the Hot Areas of the World), Mondadori, Milan 1987, 295 pages, 22,000 Lire.

Lucio Lami started its journalistic activity as a very young man, between the fifties and the sixties, contributed to important periodicals and joined "Il Giornale" in 1974, birth date of the daily edited by Montanelli.

Well known as a special correspondent and contributor to the literary page, and especially for his series of reportages as war correspondent in the hot zones of the world during the last decade, Lucio Lami has written books on history, and essays for which he has received many awards.

Introducing "War Days" Lami tries to give the reader a picture of the difficult relationship journalist/news/public opinion, underlining how, in the late '60s, the newspaper report became a sociological by-product in which statistic data prevailed over direct evidence, problems became more important than man and news-processing preeminent over the news itself. It was the birth of "journalese", described by Lami as "a way of writing different from that of literature, impersonal and homogenized, uniform in the poorness of its jargon".

And this is why Lami, one of the very few old-style reporters of those difficult years, has decided to collect his correspondences — all published by "Il Giornale" in a book, hoping that they will serve as alternative reference and future memory.

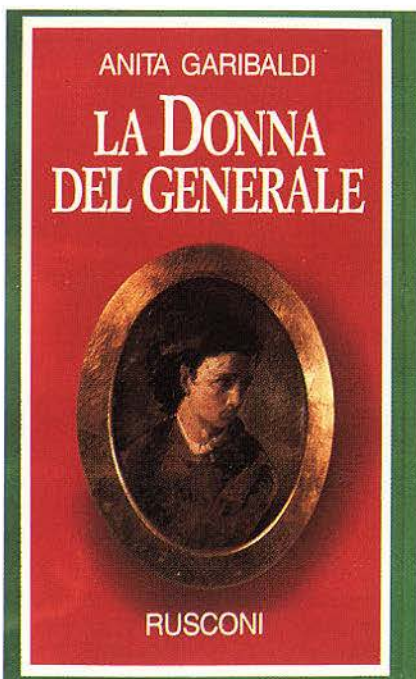
"War Days" is in fact the testimony of

a journalist taken by his profession to the front of almost all the wars and local conflicts which occurred in the past decade, who tells about the Iran-Iraq war from both sides of the line, who goes from one faction to the other in conflict-torn Northern Ireland, who travels, undercover, seven hundred kilometres in Afghanistan invaded by the Soviets, who roams the Sahara with the Moroccan soldiers and the Polisario guerrillas, who is in the Horn of Africa with the Somali and in the battle areas of the Vietnamese and Khmer Rouge in Cambodia, who boats across the Mekong and gets in touch with the Laotian resistance, who stays in Lebanon for a long period, who goes to Chad, who clandestinely enters Eritrea, who spends two months in Angola, witnessing the tough intervention of the Cuban troops and the battle of Mavinga...

Lami, a serious and objective professional, tells what his eyes see, spurred by the willingness to violate "the bonded areas of information", to experience in person the intentionally "forgotten" wars, to rip the cover of the scenarios which even the parties involved would like to conceal.

And his ability "to see the upheavals of the world from a front-row seat" enables him to captivate the reader and take him to the places he describes "lending him his eyes and, sometimes, his heart".

Massimiliano Angelini



Anita Garibaldi: "La Donna del Generale" (The General's Woman), Rusconi, Milan 1987, 227 pages, 23,000 Lire.

It is a novel constructed on imaginary letters written by the woman loved by Garibaldi; a book which has the features of

literary invention and is history at the same time because, through information never published before, it shows Anita as wife, mother and fighter at the Hero's side.

The Author, who is Anita's great-granddaughter and bears her name, has transformed herself into a contemporary of her ancestress, presenting letters based on historical truth (some are authentic) without letting the weight of myth unduly influence her work.

There are not many figures in our Risorgimento who, like Anita, can transmit a message to the modern woman and today's feminism. Suffice it to recall that in the name of her love for Garibaldi, Anita left Laguna, a little town on Brazil's southern coast where she was born in 1821, to follow her "José".

From that day she devoted her short, intense life to Garibaldi. She fought at his side like a man. With him she experienced happiness and sorrow. She felt that her temperamental inclination was to be the woman of his destiny and the companion who shared his revolutionary ideals. She evolved with him into a person aware of the political and social developments of the times. She bore him four children: Menotti, Rosita, Teresita and Ricciotti. When she died, still very young, she was again with child.

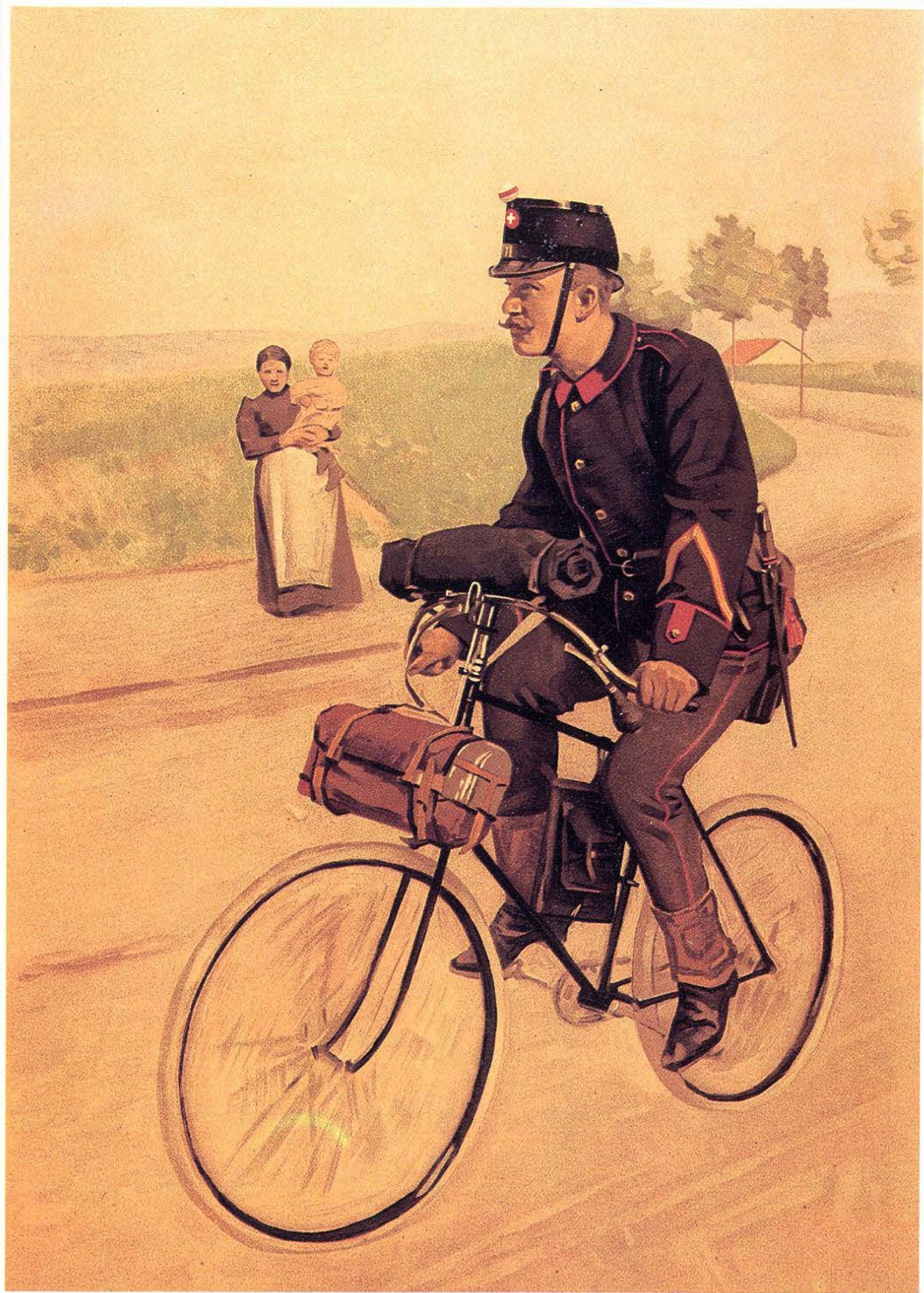
The Author describes with special emotion Anita's last days: the brief stay in San Marino, the embarkation at Cesenatico, the flight through the Valleys of Comacchio, chased by the Austrians, until her death in the marshes of Magnavacca on the fourth of August 1849.

Besides being a vivid portrait of Anita, done with passionate but vigilant participation, "La Donna del Generale" offers also an important contribution towards the reconstruction of a chapter of Italian history and, through a series of new information, does away with inaccuracies and commonplaces on Anita Garibaldi's personality and on her story.

Not only does the book make Anita more familiar to us but it does the same with Garibaldi himself, who is seen through the eyes of his woman.

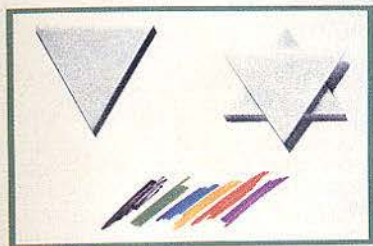
The Author has had the ability to blend the historical and psychological truth with a surprising insight into the mind of the heroine, showing a typically feminine sensitivity in the letters' form and in her ability to reconstruct the events with great efficacy. A few short notes to outline her personality: Mrs. Garibaldi has lived, studied and worked in Italy, France, England, United States and Mexico. In England she graduated in Economy and Political Science and worked as a teacher. She speaks five languages. For years she has been carrying out cultural and sociologic research activities for the European Community and for private organizations. Some pieces of her historical research carried out in Mexico, Brazil and Uruguay have been used by the Italian TV, where she is currently in charge of a weekly programme. Italian representative at the European Cultural Foundation, Mrs. Garibaldi supervises its programmes regarding the environment, the elderly and the vocational training schools.







**SPOSTAMENTI DI POPOLAZIONE
E DEPORTAZIONI IN EUROPA
1939-1945**




nuova universale cappelli

"Spostamenti di popolazione e deportazioni in Europa 1939-1945" (Population Displacements and Deportations in Europe 1939-1945), Cappelli, S. Lazzaro di Savena (Bologna) 1987, 506 pages, 32,000 Lire.

The essay relates on a number of contributions of thought emerged at the interna-

tional meeting on "Population displacements and deportations in Europe during WWII" which was held at Carpi on 4-5 October 1987.

Besides underlining the aspects of deportation concerning individuals and communities — aspects which, in any case have been studied exhaustively and are well alive in the common civil conscience — the main objective has been to verify the longer-term repercussions produced by these phenomena of collective and programmed violence in the process of global evolution lived by the European society from the beginning of WWII to this day.

In the scholars' perspective, the attention is not focused on deportation in the strict sense of the word, which identifies with the horrors of the system of the extermination camps, the most evident expression of which were the ghettoization, first, and then the extermination of the Jews, especially in Central and Eastern Europe. Light is shed, also, on the form of forced displacement caused by huge transfers of ethnic communities such as the Slavic populations or the Gypsy communities which, according to the policy planned and practiced by the Nazis — not without inconsistency and contradictions — should have abandoned their land, or outright disappear, in order to give way to an expansion process destined to strengthen, both racially and socially, the leadership of the German element.

Furthermore, ample space is devoted to the often neglected phenomenon of the forced transfer of millions of foreign workers to the Third Reich, which was due not only to war needs, but was part of a programme aimed at impoverishing the national societies stormed by the Nazi aggression and at changing the roles, with the ultimate purpose of exalting, above everything, the leading role of the German element, subordinating all productive energies to the war and post-war needs of the Nazi Reich.

Nothing could be more wrong and misleading than to consider the Nazi persecutions as the results of the personal initiative and excessive zeal of some fanatics, or a completely accidental, casual and unforeseeable event which, therefore, could absolutely not occur again. Thus one would forget or underestimate the fundamentals themselves of the ideology which had wanted war as a means of extermination.

It is right therefore to remember, in order to investigate the causes which could produce Auschwitz and Buchenwald, and to find ways to prevent their reoccurrence.

Then we ought to remember, certainly not out of hatred, but to reacquire the values of human dignity and equality without difference of race, ideology or religious faith — as well as the ideals of peace and brotherhood among the peoples of the world.

Ferdinando Schettino

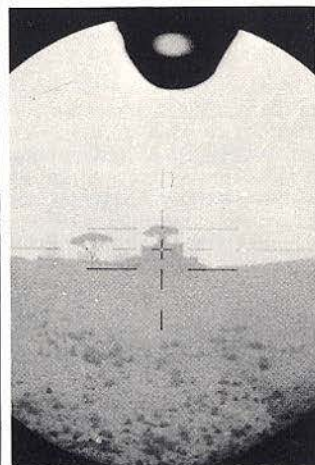
TURMS

**FCS modulare
di 3ª generazione
per mezzi corazzati
con elevata capacità
di tiro in movimento
anche di notte**

 **OFFICINE
GALILEO**

DIVISIONE SISTEMI MILITARI
Via A. Einstein, 35
50013 CAMPI BISENZIO (FIRENZE)
Telefono (055) 89501 - Telex 570126 Galilei I
Telefax (055) 8950600

GRUPPO
EFIM
 **FINANZIARIA
E. BREDA**



TIRO IN MOVIMENTO GIORNO/NOTTE



COMITATO NAZIONALE «BUR SCIBIS»

C'ERA UNA VOLTA

IL BATTAGLIONE UNIVERSITARIO «CURTATONE MONTANARA»



OTTOBRE 1985

Comitato Nazionale "Bur Scibis": "C'era una volta. Il battaglione universitario "Curtatone e Montanara" (Once upon a time... The Students' Battalion "Curtatone e Montanara"), edited by Beppe Rebuffa, Litografia Chicca, Tivoli 1985, 254 pages, 25,000 Lire.

The name of the unit was chosen in remembrance of other volunteer-students of the Universities of Pisa and Siena, who enlisted in 1848 to take part in the first war for the independence of Italy and had their baptism of fire in the Mantua plains, between Curtatone and Montanara, fighting against the overwhelming and well-trained forces of Marshal Radetzki. The book deals with another historical recurrence, less fortunate, perhaps, but marked, nevertheless, by many similar acts of heroism.

In 1935, eight hundred university students from every part of Italy, chosen among as many as three thousand applications, chose to go to East Africa as enlisted men.

They were trained in Somalia, at a desert site called Bur Scibis. Heat, dust, tough and constant drills could not damp the battalion's enthusiasm. Bur Scibis was the initial training ground of many heroic deeds started in Somalia and subsequently continued in Spain, Africa, Russia, Albania, the Balkans, Greece, prison camps, on the Italian front. In victory and in defeat, the Italian legionaries gave the best of themselves.

To drop the books and sling on their carbines was for them an act of extreme coherence and often of great sacrifice. Famous names can be found among the volunteers: Gianni Granzotto, Cesare Zappulli, Gaetano Falzone.

Useless to discuss today if the choice

was right or, in the light of history, wrong. What prevailed then was the wish to participate and be involved in an action in which the young believed with enthusiasm and self-denial.

The book includes excerpts from journals, posthumous reflections, posterior memories. It is neither a military treatise nor a war story, but the accurate recollection of those who got out alive from an imperialist, reputedly "not felt" war, leaving behind many who had been comrades in good and bad fortune.

Significantly the book has been printed at the "Villa dei Greci" in Tivoli, where fifty-three years ago the students gathered to offer their voluntary holocaust and where today the printing firm "Chicca" carries out its activities.

The 250 pages of the book are adorned by many illustrations and drawings by legionary Cleto Capponi and, besides listing the legionaries, carry the name of 102 fallen in operations and war events. More than 30 per cent were decorated for military valour. Those interested in the book can request it directly to Gen. Giuseppe Rebuffa, Comitato Nazionale "Bur Scibis", via F. Pinelli 13, 00136 Roma.

Ferdinando Schettino



Cesare Calamandrei: "Armi Bianche Militari Italiane 1814-1950" (Italian Military Sidearms 1814-1950), Olimpia Printing House, Florence, 68,000 Lire.

Lovers and students of the history of arms consider Cesare Calamandrei's latest

work as a proper encyclopedic textbook: we cannot but agree with their opinion, being aware that an authority in the science of sidearms could only produce an interesting work like this one, despite the very short time in which it was accomplished: only six months, without shirking his daily duty of editor-in-chief of the specialized review "Diana Armi".

The multifarious activities of this journalist, painter, designer of arms, military subjects and uniforms, maker of models, historian, are well known; his work on military sidearms can bear comparison with similar French, German and Anglo-American publications. The large-format volume, through its 360 pages, illustrates seven hundred arms and is furnished with drawings by the author, period photographs and prints for a total of over 1100 illustrations; several are taken from official handbooks and regulations, a part of which is unknown even to the most pedantic researchers.

The author has nevertheless stressed the informative approach, preferring it to verbose technical explanations, so as to supply the reader with a remarkable amount of facts, presented in an exhaustive and synthetic manner.

The text itself is preceded by a comprehensive introduction on sidearms; then the author outlines the history of their evolution within the military institutions, from the days of the Kingdom of Sardinia to the present time.

The sector taken into consideration is therefore very large: it goes from the arms of the eighteenth century to the modern regulation models, from the swords of the orders of knighthood to the daggers of the "Public Italian Police".

Calamandrei does not forget the armament of the various Italian States prior to Italy's unification (Modena, Parma, Lucca, Toscana, Pontiff's State, Kingdom of Sicily) and adds a great quantity of information to the scarce data published up to now, also giving the appropriate importance to bayonets.

The only flaw in this work — which the announced second edition will take care of, we hope — is the rather "Spartan" typographical makeup which, besides reproducing watercolours and coats of arms in black and white, has not been able to reproduce the photographs with the necessary clearness.

All the same, despite this technical drawback, Calamandrei's book is of real help for scholars, museum indexers and antiquarians and is, moreover, a source of information, inspiration and entertainment for the many who are fond of military history, makers of models and collectors, who hitherto have had to move among many difficulties for lack of clear and exhaustive works like the present one.

Gianrodolfo Rotasso

40 YEARS EXPERIENCE



SMA is a flexible company founded in 1943. Since 1948 has been active in design, development and production of electronic equipment for defence. Main activities are radars for ground, shipborne, airborne, missile applications and related display systems. The company broad spectrum permits the supply of turnkey systems tailored to the end-user needs.



SMA

SEGNALAMENTO MARITTIMO ED AEREO

SMA's basic product lines and business sectors include: High definition and discrimination coastal radar control stations, both for maritime traffic management systems and military application (anti intrusion, coastal defence, mine splash detection); Shipborne navigation /search radars devoted to low, very-low air coverage (anti sea skimmers); Missile active homing heads, provided with a variety of ECM devices, for SSM (OTOMAT MK2) and ASM (Marte MK2) applications; 360° coverage search and navigation airborne radars for helicopters and maritime

patrol aircraft; Standard Pod contained search radars for fixed wing aircraft to be employed in conjunction with ASM; Integrated search and tracking radars for A/A defence to be employed both on specialized trucks (OTOMATIC) or on semi-mobile/fixed station for point defence; applied research aimed toward millimetric waves (up to 100 GHz) in active and passive sensors (radiometer); Duct analysis and electromagnetic propagation forecast.

P.O. BOX 200-FIRENZE(ITALIA)-TELEPHONE:055/27501-TELEX:SMARAD 570622-CABLE:SMA FIRENZE

vir VETRERIE **GRUPPO** INDUSTRIALI ROMANE

Via dei Ruderì di Torrenova 72, 00133 Roma TEL. 6144752-6144251-6143135 FAX 6144600

SUPPLIER TO MILITARY ORGANIZATIONS

Bullet - proof, anti-breaking, anti-robbery and fire - proof casings and glasses - insulating glass doors (THERMOVIR)
Supplies for building trade and furnishing.







RIVISTA MILITARE

JOURNAL OF THE ITALIAN ARMY FOUNDED IN 1856



JULY
AUGUST
1988

IRE 4,000
\$ 4
M. 6
£ 3



CIRO DI MARTINO
Security and
Model of
Defence

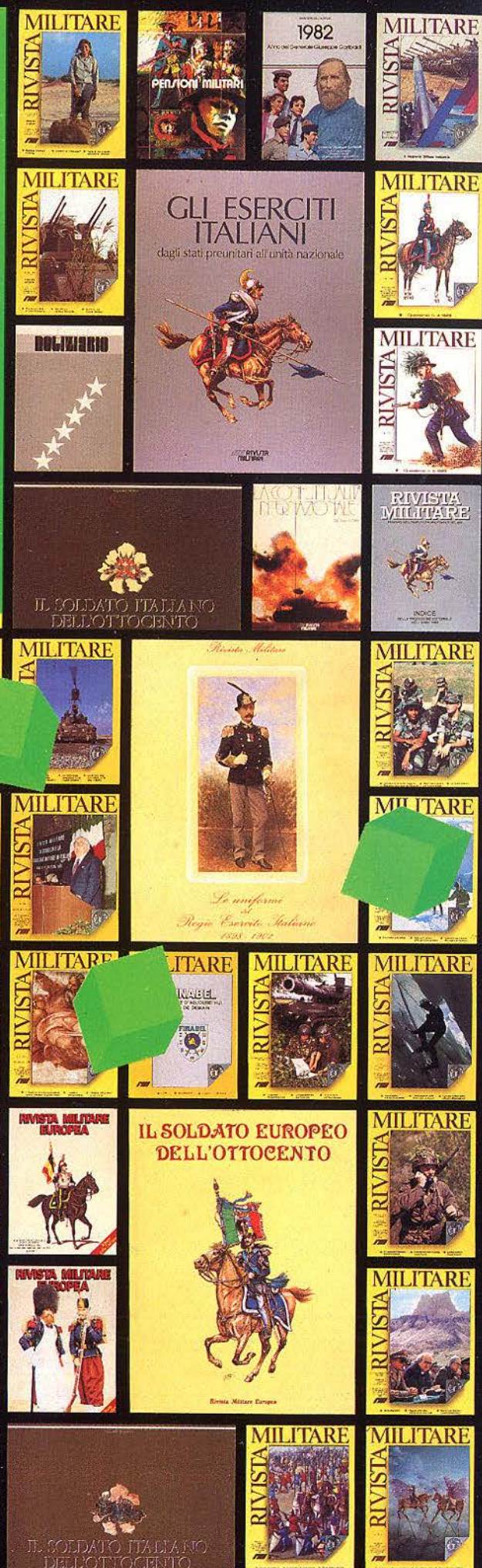


LUCIO INNECCO
Training



GIULIO BEDESCHI
Paolo Caccia
Dominioni: A Man

L'IMPEGNO DELLA RIVISTA MILITARE





E.M.P.A.

European
Military Press Agency

**RIVISTA
MILITARE**

BIMESTRALE

Supplemento al n. 4
della Rivista Militare

Direttore responsabile
Pier Giorgio Franzosi

Direzione e Redazione
Via di S. Marco, 8
00186 Roma
Tel. 47357373

Pubblicità
A cura della segreteria
dell'Ufficio Rivista Militare
Tel. 6794200.

Stampa
Tipografia FUSA Editrice s.r.l.
Via Anastasio II, 95 - 00165 Roma

Spedizione
in abbonamento postale
Gruppo IV - 70%.

Condizioni di cessione per il 1988
Un fascicolo: Lit. 4.000
\$ 4 DM 6 £ 3
Un fascicolo arretrato: Lit. 8.000
\$ 8 DM 14 £ 6
Abbonamento Italia: Lit. 22.000
estero Lit. 30.000. L'importo deve
essere versato su c/c postale
n. 22521009 intestato a
SME Ufficio Rivista Militare -
Sezione di amministrazione -
Via XX Settembre 123/A - Roma.
I residenti all'estero possono
versare l'importo tramite assegno
bancario o vaglia internazionale.

Autorizzazione del Tribunale
di Roma al n. 944 del Registro
con decreto 7-6-1949.

Fascicolo curato da
Gian Carlo Torcelli

© 1988

Proprietà letteraria artistica
e scientifica riservata



Member of USPI
Unione Stampa
Periodica Italiana

CONTENTS



Number four 1988
July-August

The aim of Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.

Politics, Economics and Strategy

2 Security and Model of Defence

(Ciro Di Martino)

14 The Defence of Europe and of Italy

(Luigi Poli)

Science, Technology and Training

24 Training

(Lucio Innecco)

32 The Mechanized and Armored Minor Complex

Sociology

44 Non-Commissioned Officers. Training, Selection, Employment

(Carlo Alfonso Giannatiempo)

History

48 The Historic Cavalry Museum

(Carlo De Virgilio)

Militaria

58 Paolo Caccia Dominioni: A Man

(Giulio Bedeschi)

66 Man On Two Wheels

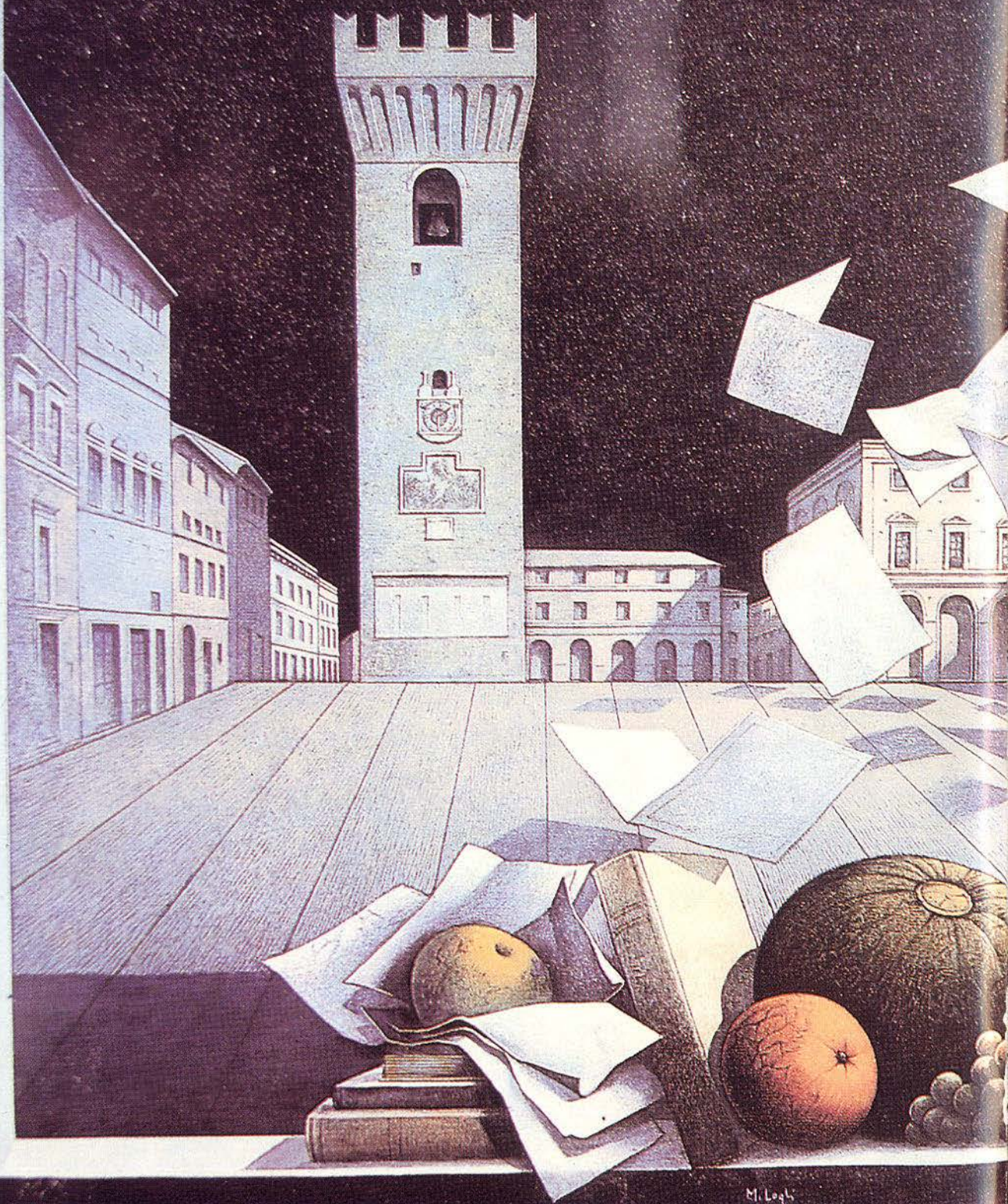
(Gian Carlo Torcelli)

70 Collector's Cards

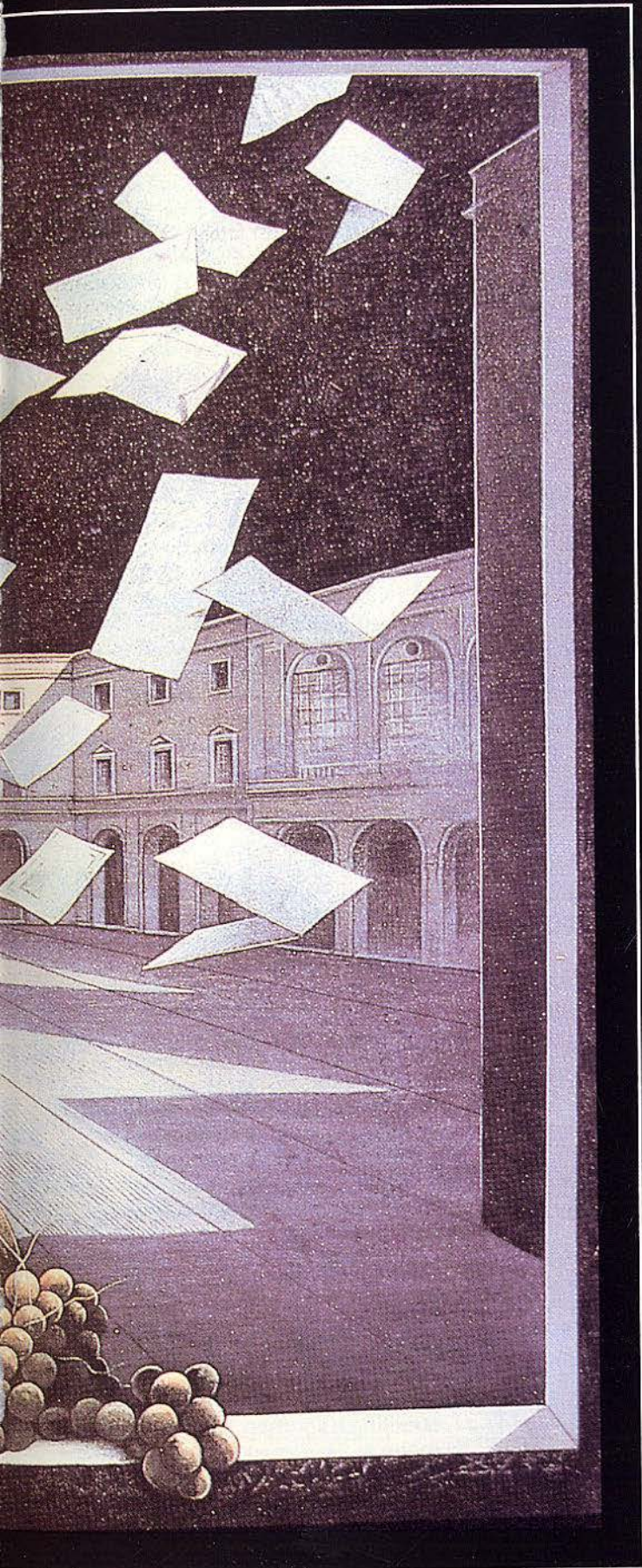
72 Book Reviews



Rules for contributors. Anyone can contribute. In the interest of the maximum objectivity of information, Rivista Militare allows contributors considerable freedom, although it does not necessarily subscribe to their opinions. Articles are published unedited and free of any editorial constraints and are therefore the sole responsibility of the Author and reflect his personal ideas exclusively. The topic must be treated in an original way and the articles themselves should not exceed 10 typewritten pages in length. The Author, got his reward, makes over his exclusive article right to Rivista Militare. Rivista Militare can make over Author's exclusive article right to other publications and to the periodicals of EMPA (European Military Press Agency). The articles should be accompanied by the necessary photographs, drawings and explanatory tables. Each Author is requested to send a photograph of himself, together with his "curriculum vitae" and a 10-line summary of the article to be published. Rivista Militare reserves the right to alter the article's title and to choose the typeface in which it is set.



M. Logh

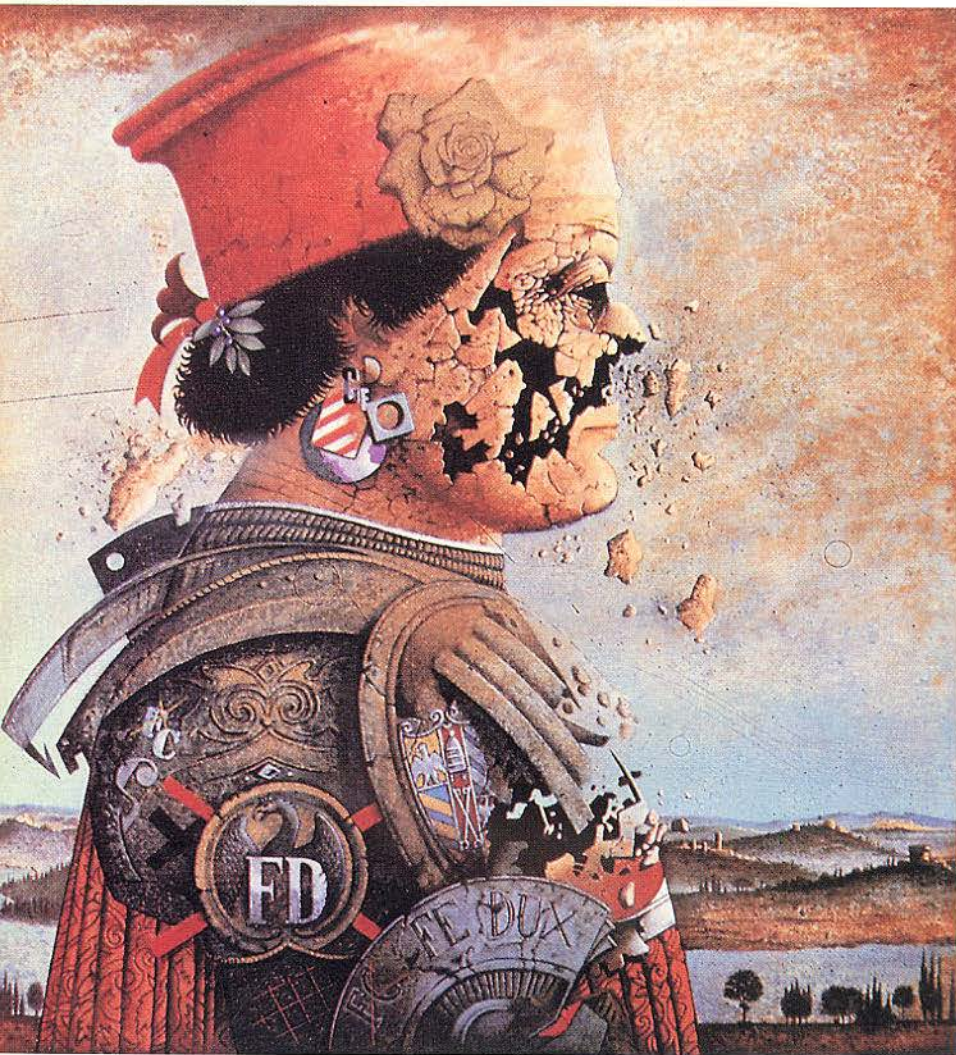


SECURITY AND MODEL OF DEFENCE

A serious approach to the problems related to security can only start from a comprehensive picture of the political and geostrategic situation. This well-established image shows a tendency to take on characteristics which at present, and especially in prospect, appear somehow new.

Security remains the result of a variety of more or less intertwined requirements and needs. But this **interdependence of components** tends to acquire meanings which are different from the traditional ones: a new factor emerges which, obvious as it is, only now takes on a clear configuration: the realization that the potential adversary affirms that he pursues the same security goals and therefore the problem is seen in terms of **reciprocity**.

Withing this framework, the special dynamism which has been animating for some time the scenario of international relations and the numerous initiatives in the sector of studies and debates on defence, constitute valid incentives to become acquainted with the problems of defence and their evolution. Nevertheless one should find out and thoroughly investigate the main factors of this evolution, before giving oneself up to easy enthusiasms and elaborating complicated alchemies regarding the models of defence.



Mario Loggi: *Federico di Montefeltro*, oil and acrylic, 80cm x 80cm

The Italian defence policy is inspired by the principles established by the Constitution and regulated by Law 382/1978, which lists the "Principles on military discipline" developed and detailed in the five interservice missions of the "White Paper 1985". Another reference is undoubtedly the Atlantic Alliance, which for four decades has provided the indispensable framework of security to its member countries, behaving as a balancing factor in East-West relations. The **"defence-deterrence-détente"** strategy remains valid in substance, even after the recent agreements on the "Intermediate Nuclear Forces" (INF), although these did pose some political and strategic problems as regards both the lesser credibility of the US nuclear interventions and the diminished strategic cohesion among the various European Regions.

No doubt the decline of the deterrence concept prompts the reemergence of the "conventional", a sector in which the Soviet Union has an overwhelming superiority.

Hence the option to include in the same negotiations the reduction of all strategic, theatre-nuclear and conventional armaments, as well as the redressing of the relevant balances.

Thus, the negotiations would not look like a progression towards a preestablished goal, but rather like an instrument to preserve the global picture of international relations, conceived as a dynamic balance.

Within this framework, one should strengthen also, as regards its "image", the Atlantic solidarity, pursuing, meanwhile, a more concrete European integration in the political field and, particularly, in the defence sector.

A complex and special structure such as the Army cannot at any time prescind from man, who is certainly the most precious of all resources and the incremental factor of the success and performance of the entire organization.

The debates on the new models of defence, with all the corollaries and analogical extensions associated with it, always produce a certain apprehension.

The whole matter — *mutatis mutandis* — calls to mind the great amount of talking and writing on the reform of our institutions.

We can very well study these problems and accept with an open mind the ensuing calm

discussions but, if we do not want to devote ourselves to a distracting Sisyphean task, let us complete first what has already been planned.

Then it will be more rational and truly realistic to make sensible and relatively inexpensive modifications; they must be suitable for our country and not related to abstract concepts imported from abroad and pertaining to other realities.

Nevertheless, an optimistic outlook on the future must go hand in hand with a realistic approach to the present delicate situation. A successful outcome of the negotiations is actually closely connected with a sufficient "contractual capability" by the West. Moreover, NATO's reduced capability of global response — resulting from the elimination of the Intermediate Nuclear Forces — vis-à-vis the clear conventional superiority of the Warsaw Pact, calls for the strengthening of the Western defensive instrument, at least from the qualitative point of view. All this implies a **boost of the "conventional", particularly from the technological standpoint.**

The achievement of a correct balance between the necessity to improve the defensive instruments and the need to promote détente is the very gist of the question. This is actually the line followed by the Defence Ministers of the Alliance who, during the session of the Planning Committee in December 1987, reaffirmed the need to promote stability both through initiatives in negotiations and by strengthening the "conventional", already agreed upon within the "Conventional Defence Improvement" (CDI). Such improvement is substantially linked to the implementation of the new NATO operational principles, among them the "Follow On Forces Attack" (FOFA) which envisages the in-depth intervention against the enemy forces and presupposes an adequate availability of high-performance survey and fire means, as well as command and control equipment to be produced making large recourse to the emerging technologies.

This concept seems moreover destined to assume an even greater importance as



Training, in peacetime, is the main activity of the Armed Forces: in fact, the most modern and technologically advanced means are of no avail if the personnel is unable to employ them correctly and efficiently.

a consequence of cutbacks in the conventional component; the two blocs could come to an agreement on the withdrawal of forces.

On the other hand, the same conclusions have been reached by the assessments regarding possible reductions in the theatre short-range nuclear arsenal (triple-zero option) which, by further impairing the capacity of "flexible response", would again make the whole "conventional" even more important.

It can be said that, contrary to what it could be expected, neither the reductions in the nuclear sector nor those in the conventional one would result in budget savings. Indeed the contrary is true, both for the deriving costs of verification, withdrawal and destruction and because the counterside of stability is the credibility of the military instrument, vital factors of which are modernization and qualitative improvements.

In order to properly define Italy's defensive requirements one should consider also its geostrategic position in the Mediterranean area, towards which the centre of gravity of the crises that concern Europe is decidedly moving.

In this context, Italy with its dual role of continental and Mediterranean country:

- could be involved in general crises, within the framework of bloc confrontation;
- must protect the southern flank of the Alliance where the indirect threats — indirect but no less probable and no less serious than those aimed at the Central Region — occur with increasing frequency;
- in assessing the threat, must take into account also the neighbouring neutral and non-aligned nations.

This of course makes the national defence problem all the more complicated.

In addition to the requirements of security on the northeastern border, there are those regarding the defence of the peninsular and insular territory and — even more — the participation of the Armed Forces in interventions of public interest, within the framework of modern defence which must less and less be confined to its technical/military aspects and increasingly expanded to a global vision of the needs.

The ensuing wide range of options requires — as far as the Army is concerned — an extremely flexible operational instrument, credible as regards quantity and quality, made up by a number of "Brigade modules" with adequate backing at tactical and logistic level. The instrument must accomplish a balance between operational readiness and capability of tactical and logistic support for long periods.

At present, the Army's reality, with its 24 Brigades, does not seem to be adequate to the requirements of the interservice missions pointed out by the "White Paper". The

No doubt the decline of the deterrence concept prompts the reemergence of the "conventional", a sector in which the Soviet Union has an overwhelming superiority.

minimum requirement has been assessed in 27 elementary Major Units. This is why the Army has planned the emergency constitution of three more Brigades based on existing school and training organizations, to be completed on mobilization.

It is an instrument gauged on a "minimum" requirement which inevitably entails the assignment of several missions to some units, with the risks that go with it. But — in my opinion — this factor does not affect the Italian military instrument only. Such instrument is moreover conceptually structured for carrying out operations in a selective and limited nuclear environment. Possible developments in the strategy of "flexible response" along the lines already pointed out will inevitably require its adjustment. In any case, the forces still show functional defects and qualitative deficiencies, detected long ago, that are being taken care of compatibly with the available resources which hitherto have been insufficient. In detail, the more pressing needs and the relevant programmes can be in short described as follows.

Mobility, which requires a wide selection of tracked, armoured and wheeled vehicles, special means for engineers and helicopters.

Currently the Army has means which are in part obsolete. In addition, there is a need to improve the defence of the peninsular and insular territory and the assistance in case of public disasters, by enabling the Major Units to move swiftly through wide areas and by achieving, with the necessary gradualness, a larger presence in the South. In order

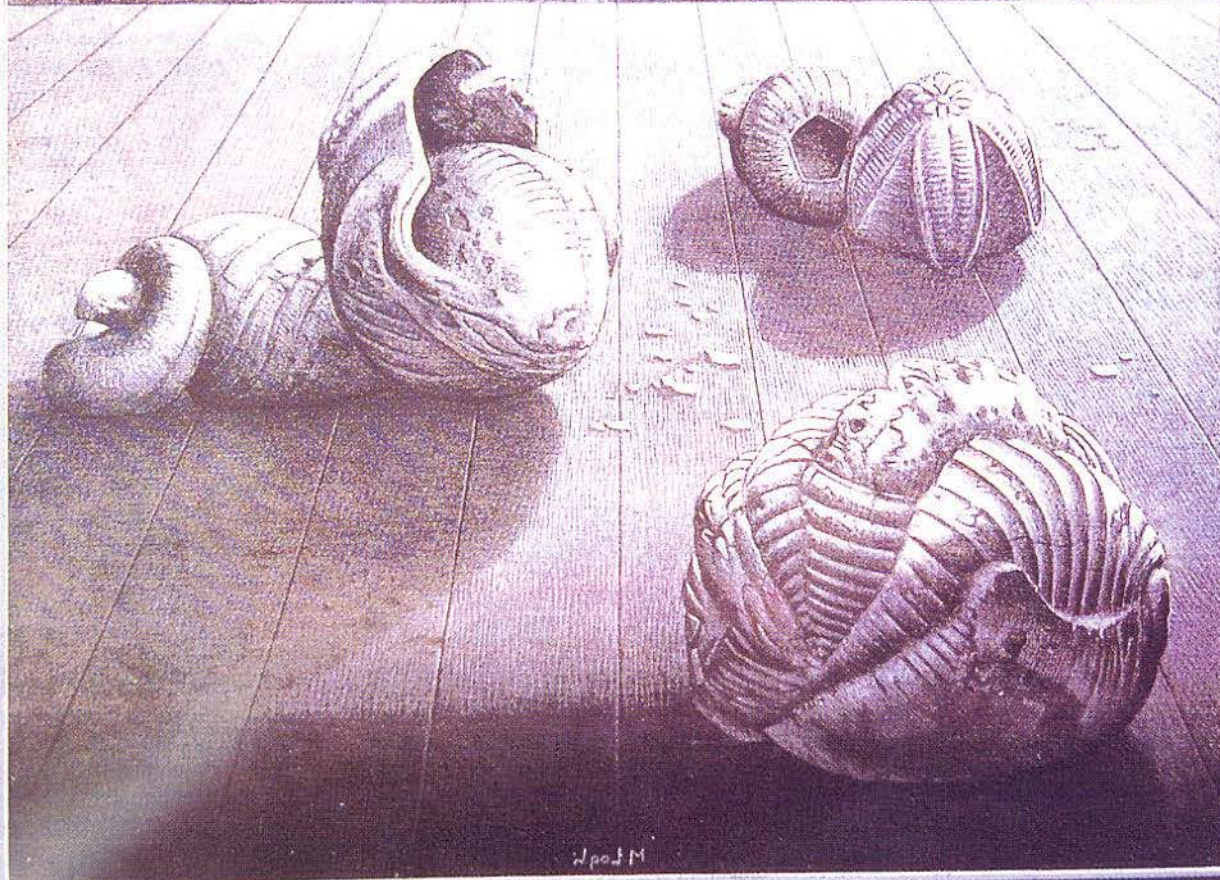
to attain these goals, we have planned the introduction — as from 1990, over a five-year period — of a 2nd generation tank (ARIETE) due to replace the "M60", of wheeled armoured vehicles 8x8 (CENTAURO) armed with a 105 mm gun and of armoured cars 4x4 (PUMA), besides the new tactical wheeled vehicles "of the nineties". The technical operational tests on the prototypes of the national tank and armoured vehicles are currently under way.

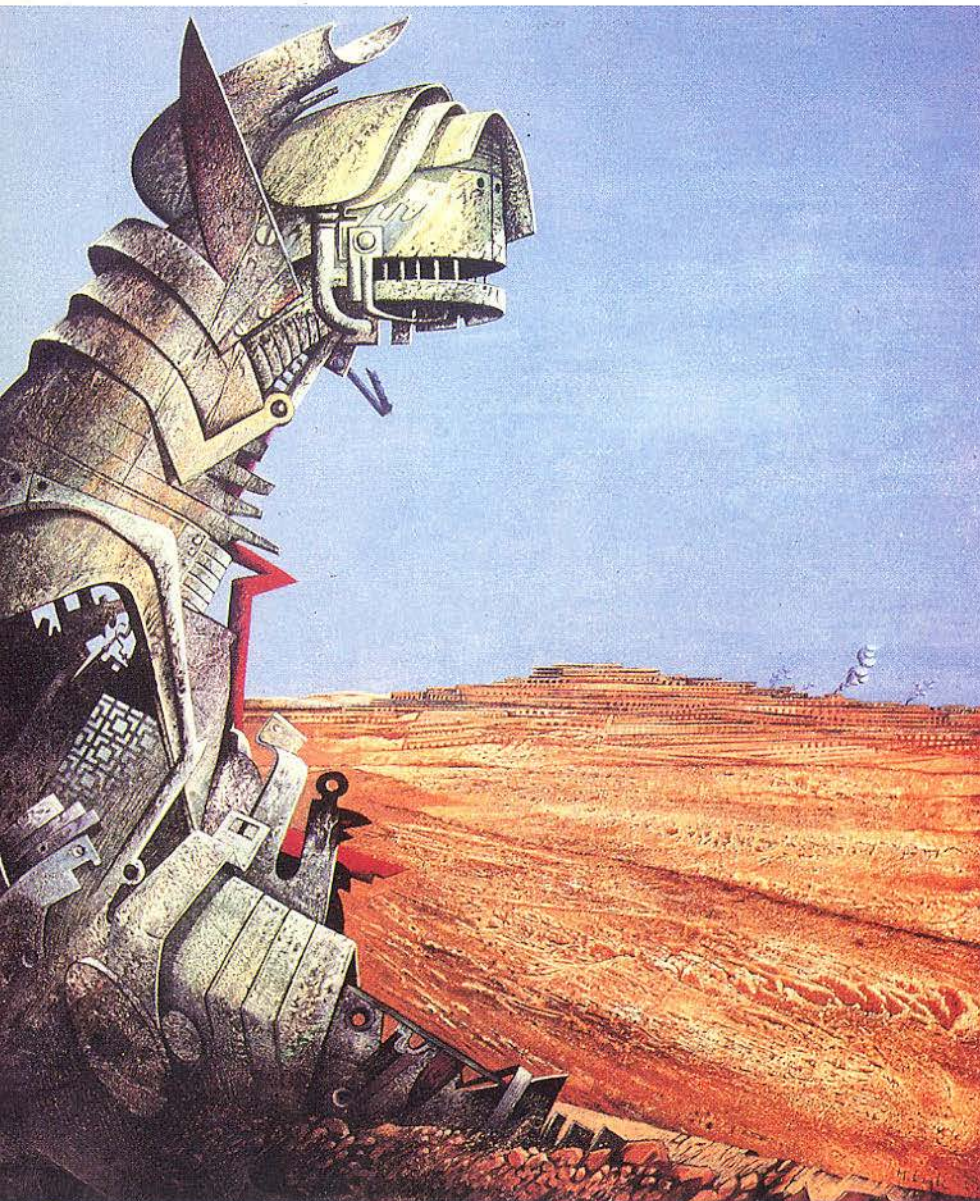
Ground Fire Support, for which we need not only a general modernization of materials but also the introduction of new fire-delivery systems (saturation weapons) and longer-range artillery, able to meet the new operational requirements.

To this end, besides the revitalization of the M-109 self-propelled gun to increase its range from 18 to 24 km, the programme for the acquisition of the modern MLRS and FIROS 30 multiple rocket launchers, capable of delivering saturation fire at a distance of up to 40 km, are at an advanced stage. New munitions are also being tested, as well as modern types of fire preparation and control systems. (SAGAT and FIELDGUARD).

• **Antitank defence**: still shows some quantitative shortcomings. But the programme for the acquisition of long and intermediate range missile systems (TOW, MILAN) is being completed and we are about to start the distribution of the "FOLGORE" short-range rocket launchers. Meanwhile, we are also carrying out the comparative trial of the portable

Mario Logli: Città Fossile, oil and acrylic, 50cm x 70 cm





Mario Logli: Azadrin nella Città Morta, oil and acrylic, 70cm x 80cm

operational tests of the "SKYGUARD-ASPID" light missile system, of entirely national design, which will be integrated with the modernized 40 mm gun conventional system. The programme for the acquisition of anti-aircraft and self-defence missile systems (STINGER-MISTRAL) as well as of conventional systems (self-propelled 25 mm four-barrel gun) is also being accomplished.

- **Command, control, target acquisition and electronic warfare:** in this most important area there is an immediate need of modern equipment for detecting and acquiring targets, of new communication and electronic warfare means, of systems for the automated management of information and decisions, as well as infrastructure for the relevant installations.

To this end, we are boosting the development of the CATRIN transmission and information field system and the import of the correlated SIACCON Command and Control System.

- **Technical and Logistic Support:** an extensive review of the Army's administrative, medical and technical-logistic organization is under way. It will be a streamlining and functional reorganization which is indispensable and cannot be delayed.

As regards the new model of logistic support of vehicles and materials, we are considering the establishment of "Interservice Supply Centres" organized on multiple supply modules for the various types of materials, with completely automated management procedures.

- **Military Infrastructure:** a body of infrastructure adequate to the living, working and training needs, is essential in order to improve the "military condition". The situation, compared to what was envisaged by the National Conference on Military

NATO'S reduced capability of global response vis-à-vis the clear conventional superiority of the Warsaw Pact calls for the strengthening of the Western defensive instrument, at least from the qualitative point of view.

self-defence APILAS (FR), PANZERFAUST 3 (GE) and LAW (UK) systems in order to definitely choose and adopt one of them. Moreover, the A-129 anti-tank helicopters have started to go into service.

- **Anti-aircraft defence,** in regard of which the first steps

have been taken in order to do away with the qualitative and quantitative shortcomings of short-range missile systems, rapid-fire artillery and self-defence systems.

As regards this sector, we are planning to conclude within a short time the technical-

Infrastructure of 1986, continues to be critical due to the sizeable cuts of financial resources made in this sector.

The answer to this serious problem is provided by the "Botta" Bill on the reorganization of military infrastructure, which proposes a funding, over several years, of building new barracks in a perspective of decentralization and modernization. In this regard I wish to insist on the fact that the problem must be seen in terms of "decentration" and not of "ghettoization".

Moreover, the Bill provides for service housing and house ownership for the Cadres (Cooperatives, advances on the severance allowance, etc.).

Meanwhile, of particular importance is the separate programme for new installations which should replace as many old ones that must be abandoned urgently. In fact, there are plans for the construction of standard barracks for a total expense of 520 billion lire.

In relation to this, the location and acquisition of the areas on which the new installations will be built is in progress.

• **Training:** in peacetime it is the main activity of the Armed Forces. In fact, the most modern and technologically advanced means are of no avail if the personnel is unable to employ them correctly and efficiently.

The improvement of the training activity backed, where possible and expedient, by electronic devices and simulators, is and remains our primary goal.

And it could not be otherwise, because a good training guarantees the accomplishment of the institutional tasks, creates security and is gratifying for the entire personnel.

A major obstacle for the development of this fundamental sector is the continuing



The Army, in order to fulfill its commitments to the Country, must be given the possibility to train, albeit with due consideration for the touristic and environmental needs, which undoubtedly deserve all our respect.

shortage of shooting ranges.

In order to improve the situation — at least in the sector of firing with individual weapons — a programme has been launched providing for the establishment, by the end of 1993, of ten closed shooting ranges, the first of which,

located near the Military Town of "Cecchignola", has been inaugurated recently. This will be followed, within the current semester, by those of Albenga and Montorio Veronese and subsequently by the ones located at Bellinzago Novarese and Belluno.



Mario Loggi: *Recanati in Fuga*, oil and acrylic, 60cm x 80cm

The fact remains that a more favourable disposition of the Regions towards this crucial problem would be highly desirable. Law no. 898/76 is perceived primarily as a reduction of servitudes; its other no less important aspects are almost ignored.

The Army, in order to fulfill its commitments to the Country, must be given the possibility to train, albeit with due consideration for the touristic and environmental needs which undoubtedly deserve all our respect.

This concise survey of the land instrument would be incomplete without a mention of the **condition of personnel**. A complex and special structure

such as the Army cannot, at any time, prescind from man, who is certainly the most precious of all resources and the incremental factor of the success and performance of the entire organization.

We need highly motivated and prepared Officer and NCO Cadres as well as enlisted men who participate and are conscious of the high social value of their service and of its significance for the realization of a credible instrument. The attainment of this objective cannot exclude the fulfillment of the men's aspirations after a more decorous standard of living. For the Cadres this means the solution of problems which regard salaries, promotion norms, housing and the participation of their families in

the national social texture. For the enlisted men we need structures permitting a more profitable use of time and the acknowledgement of the service as a preferential qualification for their admission into the working world.

Having sketched the strategic picture, defined the tasks and pointed out the deficiencies of the instrument and the necessary measures to correct them, at least in part, it becomes possible to outline the evolutionary trends of the defence model as far as the Army is concerned. These trends proceed along **two interacting directions**: the normative one and the **organizational/structural** one.

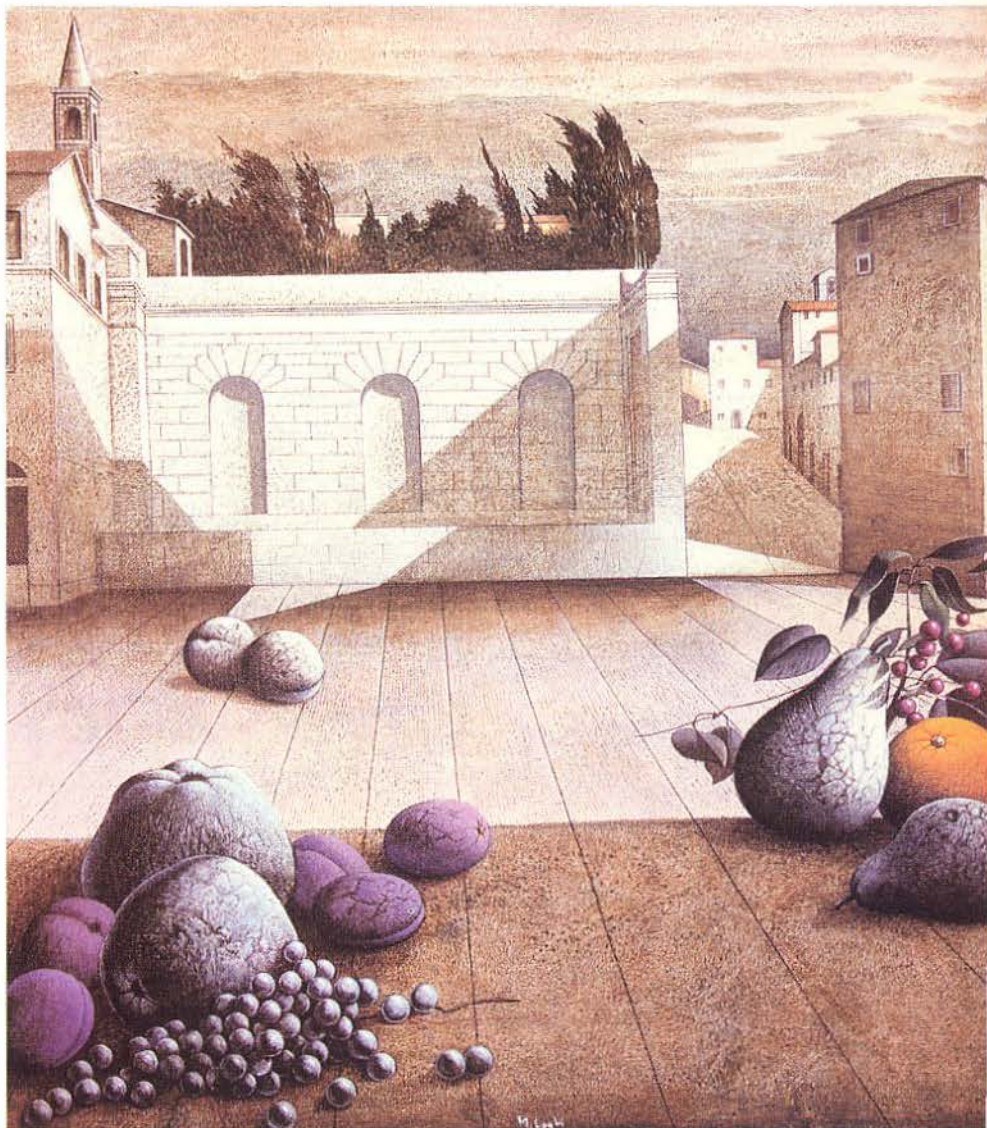
The body of the current regulations, based on flexible

response and advanced defence, is still valid in substance. In the medium term a few adjustments will be perhaps necessary, in order to take into account the changes in the operational scenario, caused both by the new technologies — which are real power multipliers — and by the development and progressive diversification of the threat. This leads us to envisage units of forces more versatile than the present ones and more capable of adjusting to the tasks and to the environment. In this perspective the area counterinterdiction acquires a particular consequence, for it is intended to counter a fragmentized threat capable not only of affecting the military instrument but also of producing large lacerations in the socioeconomic structure of the country; therefore, the concept of global defence reaffirms itself more and more at every level.

From the organizational point of view, the operational component of the Army will continue to be centred on the Brigade, whose future typology — already thoroughly outlined — envisages, by the mid-nineties, the introduction of new elements, such as the reconnaissance and anti-aircraft components, the increase of the artillery firepower and of the infantry weapons, as well as the improvement of mobility, both tactical and strategical, through greater recourse to wheeled armoured vehicles.

At the same time, the future typology of supports envisages, in substance, improvements in the sectors of command, control and communications, of land and anti-aircraft fire and of logistic support.

Nevertheless, the requirements just mentioned, extending over a period of several years, cannot be entirely met by the present allocations. There is a financial gap, which



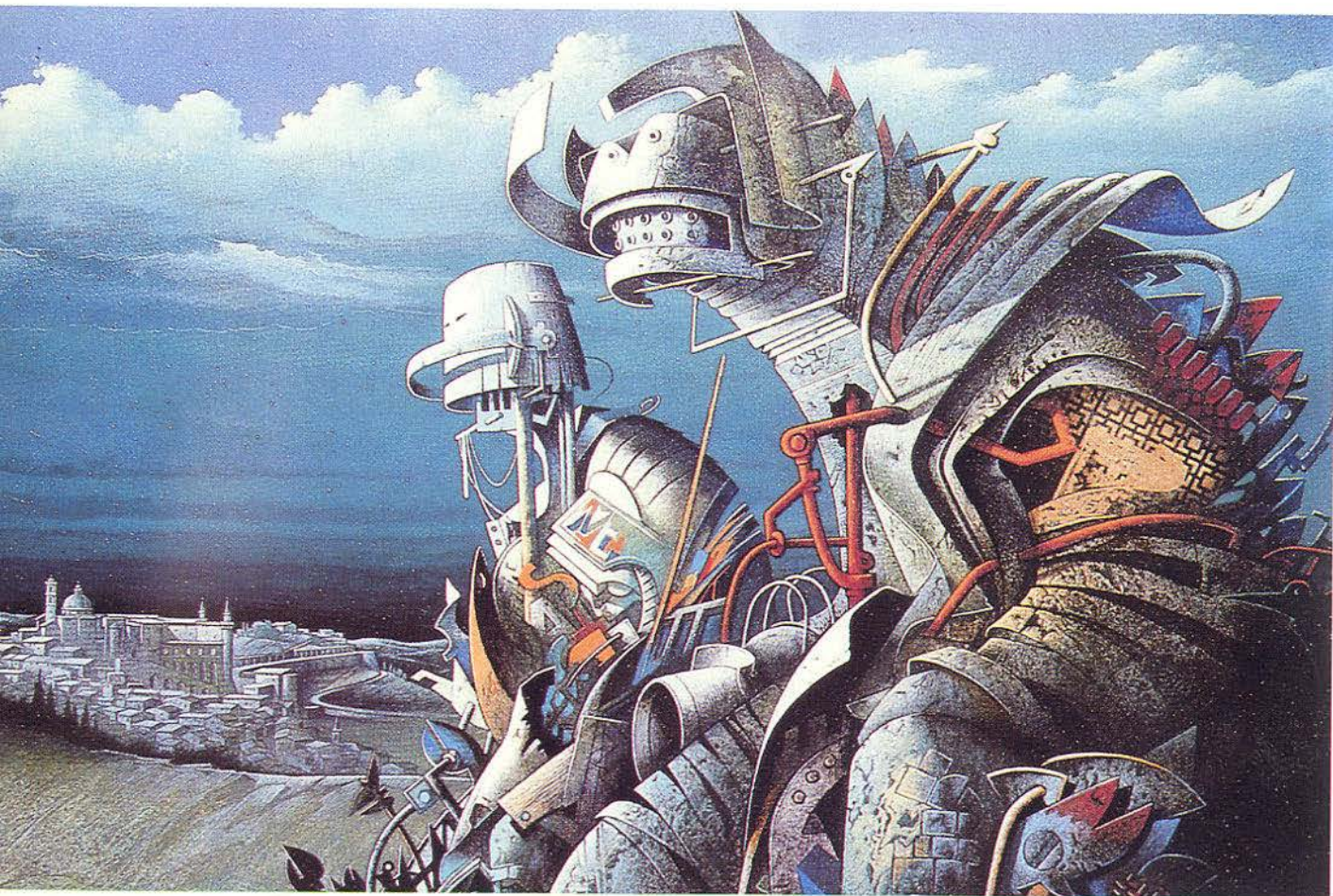
The increase in the expenses derives both from the greater significance of the conventional component and from the need to eliminate the delays accumulated in the course of time due to insufficient allocations in the ordinary budget.

should be filled if we are to correct promptly the still existing deficiencies. At this point it seems appropriate to emphasize once more that a quantitative reduction of the forces would not result, contrary to what one might expect, in a reduction of the financial burden.

As a matter of fact, the increase in the expenses

derives both from the greater significance of the conventional component — which entails a technological leap forward compared to the present — and from the need to eliminate the delays accumulated in the course of time due to insufficient allocations in the ordinary budget.

Therefore we must find solutions providing additional fundings to the Army.



Mario Loggi: *Urbino Minacciata da Fitios e Rogor*, oil and acrylic, 100cm x 90cm.

In conclusion, the Army is ready to face, knowingly and with determination, the challenges of the future. The "collegial" choices are made. The direction in which to proceed is known. The willingness to proceed is firm and unanimous.

The results of the assessments as regards the changes in the politico-strategic picture and the development of the threat apparently confirm the validity of the defence model adopted in 1985 and the decisions made by the Army in the immediately subsequent years. In the handful of years that separate us from the year 2000 we will do our best to get rid of the shortcomings and delays that still negatively affect the efficiency of our instrument.

What I have just outlined is a general picture that must be completed year after

year if we want to see the whole painting acquire its accomplished form.

In short, we cannot speak of a process of reorganization with the purpose of defining and accomplishing a completely new model of land defence, but rather of a gradual, incessant movement of transformation of structures and materials, constantly striving to achieve a balance between cost and effectiveness.

"The defence" organization — considered in its inflexible economic and "business" meaning — has derived and will derive considerable advantages from the increasing introduction of new techniques and new organizational instruments.

Every modern technology in our organization has an exceptionally wide scope.

We must be able to foresee:

- more and more in advance;
- with ever increasing farsightedness;

- with a more and more reduced area of uncertainty.

There is therefore — next to the other requirements — the need for a prudent economic strategy, which we must take into account just in order to achieve the institutional goals of defence, employing to the best advantage the resources that the country can allocate to us.

Nevertheless, not everything can be entrusted to a machine or to a computer. We must be, simultaneously, enthusiastic and cautious operators of these tools.

Above all, we must be eager to know the things that we are trying to manage, and therefore to "dominate". New aspects of Gorbachev's doctrine as **sufficient defence capability**, and full correspondence of these new aspects with the military policy which has always been pursued by Italy.

Ciro Di Martino

OTO R 2.5 'GORGONA' SPECIAL TASK VEHICLE

Crew: 1 + 3
Weight: 2700 kg
On road speed: more than 120 km-hr
Range: 500 km
Armament: TPT turret for gunner protection,
automatic T 7.62 FA or T 12.7 FA turret.
Armour protection: against NATO 7.62 projectiles.



OTO MELARA S.p.A. ITALY (I 19100) LA SPEZIA, 15 VIA VALDILOCCHI
TEL (39-187) 530-111 - TLX 270368-211101 OTO I - TELEFAX (39-187) 530-669

GRUPPO
EFIM



FINANZIARIA
E. BREDA

*"How can free individuals live safely
in the awareness that their safety is
the result of the threat of an
immediate American retaliation
aiming at avoiding a Soviet attack?"*

Ronald Reagan
March 23, 1983

THE DEFENCE OF EUROPE AND OF ITALY



"Someone will now calculate who has won and who has lost. I reject this attitude and consider it false and deviating. Common sense has won, reason has won, the desire for peace has won".

Mikhail Gorbachev

December 8, 1987



Military and political choices

BALANCE OF THE FACTORS OF POWER

The northern part of the world has been at peace for over forty years. A peace, therefore, having everything in order to be defined as a lasting one.

What are the reasons for this? They are many and concurrent. Firstly, the determination of the high

income class to end the bitter experiences of the past which had caused nothing but bereavement and misery, war being no solution to the distressing problems of the moment.

Secondly, the rise of a new negative but highly efficient element within the complex game of world balance bound to the availability of the nuclear weapon by the two blocs facing

each other on the world theatre. This element is "NUCLEAR DETERRENCE" by which peace is imposed for fear of a holocaust. Morally speaking, this is not much of a victory, but practically we must admit that it is already a good result.

In fact, we should say that the peace we enjoy today is rather "sui generis", very different from the idyllic meaning we would give to the



The Turkish destroyer Savastepe (leading) and the Italian frigate Perseo during the 34th activation of the Allied Naval On-Call Force in the Mediterranean (NAVOCFORMED)

term, conditioned as we are by a classic or Christian view which cannot unfortunately be found in the reality of our modern world.

We are facing a "non war" situation, but not one of true peace and the only good thing about it is the absence of armed conflicts.

With the spectre of a nuclear holocaust hovering over us, disagreements are never pushed to the edge of a general conflict. Other forms of strategy, of a non military nature, are applied. With these, the objectives of war may be achieved without a war.

This is virtually how the more open-minded international leaders behave.

In this disquieting situation peace depends on the balance of the factors of power that big, medium and small nations

are able to maintain; weapons, their potential use, the credibility of the defence/offence ratio they manage to express, are elements which still weigh heavily on the possibility of guaranteeing peace.

The role of the Atlantic Alliance which pursues political objectives of peace achieved through a credible military organization thus becomes particularly important.

It is a clear and consolidated role, summarized in *forty years of peace or, rather, of "non war"* enjoyed by Europe, to be connected to the effects of "**détente-deterrence**" which have been regulating world balance for quite a long time.

The utmost importance of the present existing balances is confirmed by the fact that this

peace is located in the areas where the two blocs, East-West, directly face each other whereas in the rest of the world — in the so-called "marginal areas" — there have been 450 wars since 1945.

This peace, however, is not indefeasible and the present situation shows signs of serious danger.

The fears connected to a possible nuclear proliferation, i.e. with the development of nations holding nuclear forces and the event of an error of calculation, always possible, shake the conscience of mankind, which refuses the very thought of a disastrous war having neither winners nor losers.

Moral considerations make it necessary to abandon the nuclear armament race which does not seem to offer any reassuring solution. It is high time that the aberrant logic of "assured mutual destruction" be overcome.

Any idea of "unilateral disarmament" would have the result of destabilizing further the reference picture of the negotiations.

A U.S. Marines CH-46 Sea-Knight carrying light artillery from ship to shore during amphibious landing operations.

In this context, the signing of the treaty of Washington, on December 8, gives rise to satisfaction and hope.

There are, however, some worrying questions to be answered.

Will the negotiations eliminate the short and medium range missile capability?

So it seems. There are, in fact, two stages. An initial control to see that launchers and missiles are eliminated and a final inspection on each base to make sure that there are no more missiles. For the following thirteen years the parties are entitled to carry out inspections at very short notice.

Are data supplied by the Soviets complete and do they allow to carry out the activities set down by the negotiations?

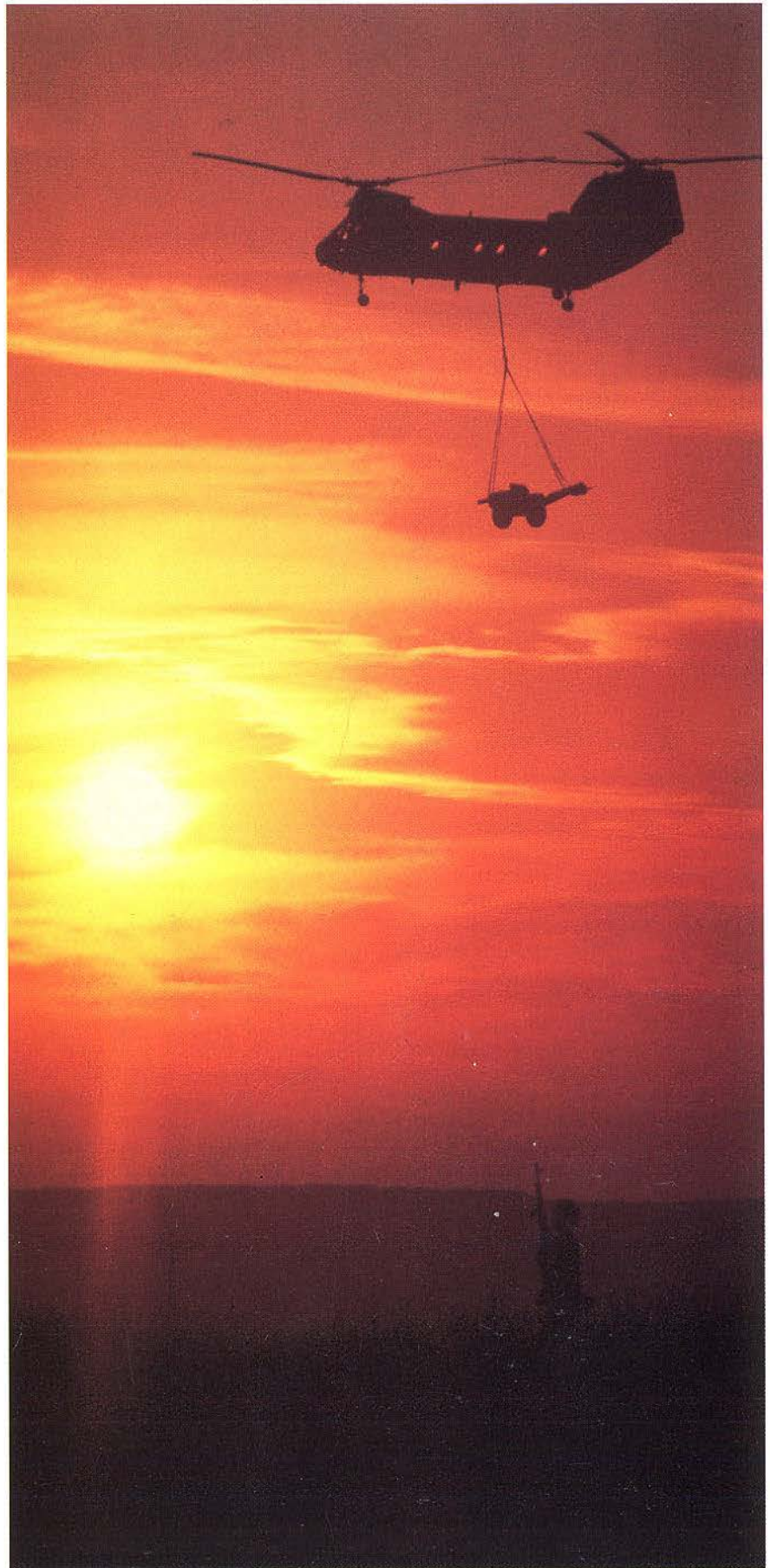
This time too, the answer is yes. Moreover, the treaty entitles us to carry out basic inspections of all the Soviet support and employment equipment to check the accuracy of these data.

Are there loop-holes or clauses which may give rise to future disagreements regarding the interpretation of the treaty?

The text of the treaty is necessarily complex and contains a great number of clauses. At present we have no means of anticipating all future probabilities. This is why all the treaties regarding armament control include clauses for future consultations, designed to clarify any misunderstanding that may arise.

Are there methods for valid inspections?

Yes, even though the perfect method would require instantaneous inspections at any time and place without the other side being able to oppose a refusal. Actually the method of inspection mutually agreed upon allows for a short notice and regards the missile bases and equipment, the continuous monitoring of the equipment





Alpini ready for inspection during the NATO Display Determination '87 Exercise.

used to assemble the SS20s and special measures to increase the controlling capacity of the U.S. by reconnaissance satellites, on the SS25 bases where illegal activity could easily be carried out.

Are we absolutely sure that the Soviets are not hiding missiles somewhere on their territory?

No, but we believe that they cannot test these missiles, train troops for this purpose or maintain the necessary basic infrastructure. Such activities would be most likely found out very quickly.

The important innovation of the treaty is that the Soviets have accepted the proposals on the inspections, the short notice controls and the monitoring methods regarding their equipment previously used to assemble SS20s.

Actually, the Washington agreement, with the "zero

option" on medium and short range missiles (INF) is only the first step towards the destruction (or re-employment!) of 400 nuclear warheads.

A first step towards the "double zero option" which will, instead, be of utmost political importance, far beyond the technical, military and strategic terms. The Washington Treaty, however, confirms the fact that the way towards nuclear disarmament at zero level has been taken.

Where will this take us?

Optimists believe "it will give us a better life, worthy of a better mankind".

Pessimists say that "without the fear of a nuclear

To be part of a bloc without giving an adequate military and political contribution, means giving up being active participants of the aims and objectives of defence of the bloc itself: it means becoming the object and not the subject of politics.

war, mankind, which is not better than in the past, will happily go on destroying itself, as it did up to Hiroshima".

The theory of a flexible response through a balance "with the bomb" having been definitely overcome, we have passed to the balance "of the bomb". Nuclear balance at zero level on one side and conventional rebalance on the other.

THE DEFENCE OF EUROPE

Until now Europe had been cut out from these agreements, while converging military and political strategies designed to support important choices in Europe would be elements of security and therefore primary objectives for an authentic strategy of peace.

MILITARY CHOICES:

The new concept of a Europe without Euromissiles is beginning euphorically to



The Italian ship «Perseo» refuelled at sea by the British replenishment ship «Grey Rover».

take shape. An inventory is now being made of the military arsenals of the United States and of the Atlantic Alliance in Europe and the options available to neutralize the strategic unbalance caused by the elimination of medium range missiles (INF) are being examined. The password has thus become "quality improvements" in the wake of the "few but good" philosophy which has reduced the number of nuclear weapons deployed by NATO in Europe from 7,000 to 4,600 in the last eight years. The INF agreement will now reduce this number by another 400 nuclear warheads.

Meanwhile military experts are elaborating options to make up for these reductions and thus avoid unbalances:

In the **nuclear field** the possibility of deploying strategic bombers (B52-B1) in Europe, sending additional F-111 atomic bombers and employing dual capacity (nuclear and

conventional) F15 or F16 aircraft, has been examined, together with that of increasing the submarines under NATO command or installing Cruise missiles on ships. These are delicate options designed to reshape the defensive pattern of NATO.

In fact, the gradual elimination of nuclear weapons will shift the burden of deterrence to the **conventional forces** (which is a typically western requirement since the Warsaw Pact must not deter us from attacking it).

Considerations of a moral kind make it necessary to abandon the nuclear armament race which does not seem to offer any reassuring solution. It is high time that the aberrant logic of "mutual assured destruction" be overcome. With a view to the above the signing of the December 8th Washington treaty is a reason for satisfaction and hope.

This does not mean, however, a conventional armament race. It would be unacceptable to those who have decided on the zero option and this not only politically speaking, but also as a military choice.

"Someone will now decide who has won and who has lost. I reject this attitude which I consider false and misleading. Common sense has won, reason has won, the wish for peace has won".

This is how Gorbachev commented the signature of the Euromissile treaty during the speech before the television of the whole world immediately after the historic event.

One thing is certain. The blank bill signed for the zero option will have to be paid some way or other. For Europe the zero option puts an end to a period of low cost defence, made possible by the fact that the American nuclear warranty had allowed Europe to elude the true costs of security.



The destroyer Savastepe, Flagship of the Turkish fleet, during the 34th activation of NAVOCFORMED.

In other words, until now the Western world has always turned to its technologic superiority to make up, at least in part, for the well-known conventional numeric superiority of the Warsaw Pact.

It is obvious however that whatever the military choices of the coming months, the modernization of the conventional forces will cause an additional economic burden on the already very tight military budgets.

In fact, after the agreements between the United States and the Soviet Union, the psychosis of the "defence void" in Western Europe has arisen in the military field. This psychosis spreads out with a speed unequalled by the political will to fill the void. In fact, it seems as if some countries may wish to profit from the innovation and thus impose a kind of hegemony, thanks only to the availability of the nuclear potential.

POLITICAL CHOICES

The matter is entirely different and has another value if we discuss the political agreements among the European nations designed to outline an organic picture of security. This is the only way we can really agree with the United States and give an instrument of military defence integrated to a united Europe. The following are four basic concepts to prove the above:

First, it is necessary to keep the relationship with the United States active, without giving the impression of believing that the agreement on the Euromissiles may undermine the security of Europe: it is obvious that the protection of Europe by the Americans, even after the agreements with Moscow is — and has always been — mostly a political factor, based on the pre-existence of an Atlantic solidarity far deeper than the presence of the Euromissiles. Facts now clearly prove that those who believed in security only in connection to the Euromissiles were mistaken right from the start.

Second, a determining aspect of Western security, until now based mainly on the American nuclear guarantee has changed considerably. By eliminating the Euromissiles the strategic liaison among European defences and the nuclear forces of the United States diminishes. This increases the strategic instability in Europe as well as the risks of a conflict, chiefly in the Mediterranean. The whole Mediterranean Region will no longer be tightly linked to the central one as was the case with the Euromissiles; NATO will have to become a kind of alliance with "a more variable geometry". This will be more necessary than in the past.

Third, it is necessary to face the European reality and take into account, of course, the nuclear capability of France and Great Britain. This capability must become a part of a mutual plan.

Fourth, France is first in an attempt at taking on a nuclear leadership in Europe, while Great Britain is second; but "two countries alone cannot form the defence of Europe".

Italy too, as fifth most industrialized country in the world, aims at concentrating its military and political attention on the geostrategic areas which, for reasons of geographic contiguity and economic affinity, may be more important for its security. This, of course, while respecting the commitments deriving from the Alliance.

Finally, the idea of taking a military shortcut to bring about a kind of European unity does not belong to the political tradition which gave life to the sort of union which we somehow have on the continent and which we must safeguard. When we rightly insist on the opportunity of giving life to a mutual military defence, the latter must be considered as the result of a dialogue and of political agreements which logically come first, as was the case with the rise and fall of the CED.

THE DEFENCE OF ITALY

The area of political interest of Italy — and this is of the utmost importance — does not wholly coincide with that protected by the Atlantic Alliance: if security is considered globally and not merely from a military point of view, not only continental Europe, but also the Persian Gulf and the Mediterranean are vital areas for our country.

I refer to a sure access to the supplies of energy, but also — broadly speaking — to the security of the sea routes leading to the Mediterranean, along which the supplies of raw materials, indispensable to our industrial production, have to travel.

It may be argued that in the close competition between East and West there is no place for the spontaneity of medium powers such as Italy.

This must not mean, however, that individual initiatives must be avoided, but rather that they must be co-ordinated and suited to the

specific possibilities of each member of the Alliance.

I would simply say that being part of a bloc without giving a suitable military and political contribution means giving up active participation in the Defence aims and objectives of the bloc itself; it means being the object rather than the subject of politics.

Moreover, Italy cannot remain isolated from the Franco-German integration. As it is impossible to oppose it, "one must get on the boat".

The problem is thus that of finding a convincing and plausible method of **deterrence**. Italy's particular geographic structure and collocation, bound to continental Europe by the "Alps-Po Valley" region is deeply set into the Mediterranean. This *area*, a *natural choice* for Italy, determines its geo-strategic function as a link between Central and Northern Europe and the coastal countries of North Africa and the Near East.

In this respect Italy is essential for the defence of the southern flank of NATO. The recent events, which have focused a new interest in the areas outside Nato and have increased political and military activism in the Mediterranean, give Italy a leading role in the defence system of the West.

In fact, the fortunes of Europe and of the Mediterranean are tightly connected, especially for a country such as Italy, whose geographic collocation demands a presence in the Mediterranean, co-ordinated both within the European Community and the Atlantic Alliance.

MILITARY CHOICES

There are many problems, from the security of the southern flank of Nato to the local tensions made dramatic by the intertwining of different interests, but always linked to the logic of the Blocs; we cannot therefore afford delays in the development of a more incisive military presence in the area.

This adds a greater commitment to the defence of the primary interests of our country, which has become the fifth industrial power in the world, to the traditional role of defending the land borders.

All this demands, for the Army, the creation of very efficient forces, with a strong operational versatility and mobility as regards strategy and tactics. The same holds true for the Navy and the Air Force.

Before studying any organic law on the military condition, it is thus necessary to study and monitor the new model of defence, the volume and typology of the military instrument, in a realistic national context, designed to carry out the missions to which it is assigned. The 1988 Financial Law too must be examined in the light of the coming change in the model of defence suited to the conditioning parameters of the security of Italy. The budget for the Defence does undoubtedly not allow for expansion. Indeed, it seriously penalizes the development of the plans the Defence had made before the zero option became a reality. The budget virtually allows the financing of plans already under way and of those resulting from the routine modernization of the equipment which becomes technically obsolete.

Historic experience denies the statement, sometimes heard in Italy, that a cut to the military budgets would hasten the process of détente and disarmament.

The only real possibility of armaments control and disarmament depends on the Western capacity of giving the USSR a reason for negotiating. It can only consist in showing that the West is firmly set upon the idea of redressing the present strategic balances. Being the world as it is and not as we would like it to be, the achievement of a military balance is the only alternative if we wish to disarm.

In a sense, this is what happened with the Euromissiles.

The USSR would never have accepted to eliminate the SS20s, if NATO had not shown its cohesion and the will to deploy the Pershing II and Cruise missiles. This consideration is also well-suited to the Vienna negotiations on the limitation of conventional forces in Europe. If we accepted a "de facto" unilateral disarmament by reducing the military budgets, it would not be clear why the USSR should take real structural measures of conventional disarmament which are the only ones capable of increasing the degree of national safety. All this process may instead be started through the modernization of our defensive capabilities, fitting them to the new conditions of national security as a whole. More training in the Units and advanced, if not emerging, technology arm systems. These must be the military choices.

POLITICAL CHOICES

The Italian politicians have shown great satisfaction for the Washington Treaty. In fact, it is the first true "structural" measure for reducing armaments. Therefore, the concern over national security involved in this option did not seem to justify an opposition or a conditioning of the US-USSR agreement to well defined *compensatory measures*. These, however, will be necessary. The "zero option" will greatly modify the entire picture of Italian and Mediterranean security. The elimination of the SS20s and SS12/22s will not put an end to the nuclear threat to our territory. The intercontinental Soviet missiles and those based on submarines can strike objectives throughout Europe. From the territory of the Warsaw Pact, the SS23s can reach Verona and Bologna. After the elimination of the Pershing II and Cruise only French and British national nuclear forces will directly oppose this threat in Europe. The non nuclear European countries, such as Italy and



Western Germany, will instead be more exposed.

Theoretically, the Euromissiles could be replaced by an expanded role of the central deterrent of the United States for the defence of Europe. Due to the vulnerability of the territory of the United States, we all understand the difficulties and hesitations involved. We cannot ask the US what it can no longer give us. These are the present political choices, limited though they may be by the fact that the US-USSR agreements were made over our heads.

CONCLUSIONS

The risk of a generalized holocaust brings us to value peace as a central blessing which cannot be forgone and no longer as a standstill among conflicts as was the case until now in the history of mankind.

In this respect, the way to disarmament does not allow alternatives, but only the search

for suitable means to carry on in conditions of security and as quickly as possible.

What conditions of security? Those ensuing from the consideration that any abrupt unilateral change in the existing balances may have harmful consequences, as it would create vulnerabilities that could make an attack a concrete possibility.

Therefore, we need a simultaneous and homogenous settlement of the balance, at lower and less critical levels.

The consequences of the zero option cannot be valued *per se*, but in connection with the evolution of the strategic situation as a whole.

The polemics against the US-USSR agreement are justified; but the Europeans cannot ask the US what it can no longer give, i.e. a complete guarantee to Europe.

Personally I believe that the Washington Treaty is a big deal for the Soviet Union.

Beyond a pacifism which



Above.
American and Turkish sailors raise the Nato flag on a NAVOCFORMED ship. This integrated multinational force is one of the three which fly the NATO flag; the other two are STANAVFORLANT (Standing Naval Force Atlantic) and STANAVFORCHAN (Standing Naval Force Channel).

Left.
A-10 Thunderbolt II "Tank Killers" at the Villafranca Air Base.

we find hard to believe, the Soviet Union has taken care of social and economic issues certainly more credible than the moral questions which triumphed in an orgy of official hypocrisy.

The economic crisis of the Soviet Union and the financial needs connected to the second exacting stage of the "PERESTROJKA" make it compulsory to reduce the military expenses, which cannot be sustained at the present rhythm. Expenses may be cut down considerably on the emerging technology of the foreseeable future nuclear

missilery; the planned, short-term replacement of the SS20s, operationally obsolete as regards the more modern CRUISE, would have made it necessary to make difficult and very expensive choices. The zero-option offers a zero-cost solution.

The Soviet Union will thus eliminate old medium range missiles and reach a zero level nuclear balance, while it will maintain a more economic conventional superiority, made even more valuable by the fact that the West does not really want to engage in a conventional conflict.

Gorbachev's option against the European nuclear weapons does not mean yielding to pacifist ideals, but is an intelligent political choice to the advantage of the Soviet Union.

In summary, the zero option is positive and acceptable only if it brings to a further gradual reduction of the nuclear weapons, with which deterrence has been

assured until now; it is therefore necessary to find an inversive deterrence, the burden of which must be taken on almost exclusively by the Europeans.

The problem of security is therefore one of international political will, which must be allowed to develop through a dialogue apt to give rise to mutual confidence as well as through the availability of an "armed secular arm" and the actual possibility of serious mutual controls.

The disarmament which must be pursued may be the result of a process of co-operation based on the parity of military and political choices.

A system of convincing and plausible deterrence must be achieved. The "arms control" is not enough if it is not preceded by Europe's credible will to fill the gap with the Warsaw Pact in the conventional field as well.

Gen. Luigi Poli
Senator of the Republic

TRAINING



A PRAGMATIC APPROACH

To talk of training, as the field in which we all are, or have been, directly involved, seems an inviting exercise in which to gather experiences, points of view, philosophies and intuitions. It is therefore easy to talk of it. It is not so easy however to pass on to provisions and proposals which are concrete, rational and new. In fact, it is difficult to get rid of the mental structures which are the result of personal experiences and knowledge often permeated by subjectivity and which stabilize our culture in the field and progressing towards conservative positions which, in opposition to a constantly dynamic reality, become in time a factor of involution. Nature will not accept standstills except in the form of that conclusive condition of the vital processes summarised in the expression "requiescat in pace". Thus, when speaking of training it is necessary to filter our arguments through objectivity and pragmatism. Let us thus put theories aside and state at once that unless training is tightly linked to a foreseeable operational development it will only be the useless response to the requests of our institutions. In other words, training must be suited to the situations designed to accomplish the tasks foreseen by the four Joint-Force Missions. It must be remembered that these situational conditions must be complemented with the technical and conceptual variations brought about by the new weapon systems. This is less obvious than it may seem.

For the reader's sake, it must at once be stated that the aim of these notes is not to philosophize on training, which would be boring and of no use whatsoever. The aim is to examine if and how what is at present being done in this field adheres to the reality of our situation and if there are sectors which may be improved or at least up-dated. Everything

said with an eye to our present regulations, development plans and, most of all, to our economic and social reality which certainly does not encourage hopes for a brighter future. No-one can deny that direct experience is and always will be the most efficient way of testing the reliability of the training schemes adopted. Luckily for all of us, this experience has been denied us in the last forty years. Unlike other Armies we have not been involved in the many local conflicts which have martially enlivened this restless post-war period. Field hospitals aside, of course. We will therefore have to go by other people's experience. This is no easy task because we have to suit it to our own situation with realism and humility. We learn something from the Falkland war but merely to confirm that an excellent individual training, together with aggressiveness and motivation, is a power multiplier. This must be borne in mind when evaluating the force ratio. Much more may be learned by the Arab-Israeli wars and, last but not least, the 1982 "Peace in Galilee" operation.

Distracted as we were by the political implications and emotionally involved by our presence in the land of the cedar trees we did not pay the above mentioned operation the attention it deserved. We shall go back on that issue. In any case, an increased interest in all that goes on around us is essential to keep our regulations, doctrines and training techniques vital and productive.

Using other people's experience, especially in matters of combat, is certainly more pleasant and less expensive even if not so efficacious as one's own. However, to be quite sure of its validity one must put it into practice. Unfortunately, what really counts is the result of the operation. Though conceptually correct, this is certainly not desirable. Everything considered, a natural calamity would be

better. Therefore, to exorcise risks and uncertainties, ample space should be allowed for a valid substitute such as verification and "in itinere" updating of what has already been done or is about to be done as regards changing conditions.

Mutatis mutandis, it cannot be otherwise.

THE SCENE

We feel that the basic picture has not changed very much: we still belong to the Alliance. True, we have high technologies, AIR LAND BATTLE and FOFA (1), but these regard the field of doctrines more than that of training techniques, at least for what regards the direct interest of the minor units. The threat coming from the South is something new, however it concerns mainly the other services and, as regards the Army, brings us back to the techniques of employment typical of combat in particular environments. It may affect the system, but as I have already said, that is not the object of the present article. Something, however, has changed and more precisely the "eco-social" environment in which the Armed Forces live and work in times of peace. The term "eco-social", though an ugly lexical form, clearly means that if in the past the environment was unsuitable for our training requirements, the situation has now become worse. In fact, if there was some difficulty in finding training areas in the past, it is now extremely difficult to retain the existing ones.

The situation concerning shooting-ranges is even worse. To be able to make any kind of ballistic noise, the units will have to be subjected to expensive and dispersive transfers. This is not only due to the fact that political Authorities, the local ones especially, do not easily accept the overcrowding and the noise pollution to which the image of



any military unit is linked, and this is understandable, but also to the increasing protests of environment experts, ecologists, Caritas Cristiana and parish priests. This is less understandable and certainly does not help local administrations to meet our requests. What else? The organization is also undergoing changes and the introduction of the new weapon systems

affects training. In fact, it implies a knowledge of the resulting new technical aspects and their use in the existing executive schemes. This may seem quite simple, but only if we ignore the fact that this employment must correspond strictly to the way in which the opposing forces react. The mentioned opposing forces are not phantasms, they are very real as regards weapons,

equipment, organization and doctrine of employment. To ignore this, as often happens, would be to cancel the objective validity of all our doctrinal and training efforts. We often make the mistake of thinking that we shall have to face forces trained, equipped, armed and organised like our own.

This is reassuring, but dangerous because we generally overrate our muscles when facing an enemy made in our own image and likeness. In conclusion, it would be wise to remember the immobility, within our well-known economic instability, of the modest resources available to the Armed Forces. It would be lack of common sense to believe that the situation will improve in the future. What can we do about it? Nothing but be sensible and cautious, favour the so-called "cheap" types of training and force both our imagination and technology to meet most of our demands by employing the available infrastructures and areas. And even less, if possible.

TRAINING

It was said before that here we were not going to speak of organization and doctrines. This is not altogether true.

A glance at both of them seems necessary in order to set the subject in its true background. As we know, we have a mechanised instrument for the requirements of defence on the North-East and an armoured instrument for the defence of the home territory. Mountain troops are another problem as they are designed for a specific environment which does not require important interventions in the organizational basic structure. At present, the mechanised instrument allows us only mobility. There will be possibilities of manoeuvre, at least at levels higher than the company, only in the early 90s,

when development and modernization programmes will have strengthened us as regards direct anti-aircraft defence, surveillance of the battle-field, command and control.

Everything considered, this makes our task easier, because it allows us to limit the exercises of ground manoeuvred employment at "minor complex" level and concentrate on individual training and on the training of the above complex which, being minor, may easily develop in areas of limited dimensions. It will not then be difficult, when possible, to reach higher levels with the addition of other modules.

The above stands both for the Field Army and for the Territorial Army. The reference picture will vary, but this mainly concerns Exercises with the Cadres and Command Post Exercises. This confirms that we may concentrate on what has been defined, perhaps irreverently, "cheap" training. As regards doctrine, instead, there are no institutional limitations to the instrument.

The sole limitation may come from a lack of imagination and common sense. Obviously, if the doctrine adopted does not correspond to the real situation, if it does not take into account what the enemy forces plan to do, and can do, compared to what we can do, it favours the adversary more than ourselves. It is neither pleasant nor comforting and it is also methodologically incorrect, but when there is a scarcity of resources it is certainly more realistic to start from what is possible and not from what is required, in order to define the "whats" and the "hows". Fortunately, our Constitution comes to our aid summoning us only to defensive roles which, since protohistory, are less expensive than the offensive ones. Our present doctrine seems flexible enough to allow us to link it with the development of real and reliable training schemes. Obviously, a slight reduction in the excessive

executive specificities would do no harm; this would allow a greater general flexibility as well as a greater possibility of adjusting it to local objectives without conceptual distortions.

And now we can speak about training, at last. To say the truth, while previously discussing the scene, the instruments and doctrines, we were always very close to the subject matter. To speak of training is easy but, as we said before, is neither idle nor dispersive, since training involves most of all the junior Cadres, who, due to their limited responsibilities are inclined to conceptual distortions for lack of perspective, with negative repercussions on their short- and long-term professional outlook.

The contingent lack of reliable antitank weapons for close combat, as well as the lack of hand — and rifle — grenades which may be efficiently employed in acceptable safety conditions (weapons that may be considered "cheap" but are indispensable at close distance and for combat in special environments) usually results in less-than-credible actions on the field. This may be noted in training when observing an anti-tank deployment from which light weapons and 88mm rockets launchers fire ceaselessly. This is an obvious conceptual distortion. In fact, an anti-tank deployment to accomplish its task must avoid engaging directly. But when the employment becomes normal, especially with a still distant enemy, even if only to make a show for the benefit of an ingenuous observer, the conceptual failure is a sure fact. Unless, of course, we wish to attribute only psychological objectives to the firing. And more. The always obsolete weapons do not permit to organise an anti-tank defence bound to urban infrastructure, limited as it may be, which if compared with the opposing forces, could achieve the

greatest efficiency at the lowest cost. And this not only as regards small tactics, but also as regards a more comprehensive manoeuvred defence. None of the anti-tank weapons now available can be employed inside or from within an inhabited centre.

— In live and blank-fire exercises with troops, great importance is given to the attacks of platoon and company. As is well-known, most of the operational tasks are centred on defence, even if one wishes it to be a manoeuvred and aggressive defence. The offensive, indispensable mental projection in all training circumstances, especially as a factor bringing on aggressiveness, should mainly be developed during the Exercises with the Cadres and Command Post Exercises. In the field one should prefer all those defensive situations marked by a dynamic conduct at all levels.

— As regards the small-scale executive technique we note, for example, that in training for launching hand grenades we are giving up a priori the idea of having sometime in the future a really efficient weapon. Not the old and pathetic SRCM. When such a weapon is available, it will be very difficult to modify the long established gestures by now affirmed by repetition, by tradition and by a relative confidence in impunity. The same stands for the individual weapon, made tactically insignificant by its employment in shooting ranges and in the "very tame" live exercises. Unfortunately, experience teaches us that in most cases the abovementioned weapon should be employed with the same ease and reactivity as instinctive firing. In sum, and this stands for all that has been said so far, we must start changing techniques and tactics of employment before introducing new weapon systems. The Germans did this very brilliantly during the Second World War, but the



same cannot be said for the Allies and this explains many of their failures, especially as regards tactics.

And we could go on and on. However, in order to avoid sounding too personal I wish to make another example and introduce the knowledge obtained from the already mentioned "Peace in Galilee" operation. I mention this operation because not much time has elapsed since then and as a proof of how

operationally negative the conceptual distortions may be in the doctrinal, training and organizational set up. This is also true of a military instrument such as the Israeli one marked by formidable efficiency and remarkable combat experience.

The organization and doctrine of employment of the Israeli Army following the Kippur war experience, had been re-examined and the mechanisation and the speed of

manoeuvre had been further emphasized. With these new features, in fact, the Israeli Army entered Lebanon to solve once and for all the problem of the endemic insecurity of its northern boundaries. However, the insufficiencies caused by the fact of having to operate in a situation completely different from that which was at the base of the revision emerged at once. The nature of the terrain was different: harsh and tormented, with a limited urbanization fragmented astride the penetration axes. The opposing forces were different: no powerful armoured and mechanised masses operating according to the rigid rules of the Soviet doctrine, but small groups of combatants with an excellent individual equipment, anti-tank in particular, determined and very well trained to operate on very impervious terrain. An environment that is, that stressed the institutional lack by the Israeli forces of an Infantry especially trained to operate on foot in gradual progression and in environmental situations in which the manoeuvring capacity and a powerful air support were of very little help. Since 1948 there had been no direct experience or possibilities of studying a similar situation. The result was: a high toll of both men and armoured and mechanized vehicles mainly due to light weapons and portable anti-tank weapons, with a net decline of mechanized and armoured forces no longer able to lead in battle. The immediate consequences, both unpleasant and dangerous, because occurring in battle were: refusal to operate on sheltered vehicles, considered real death traps, fractioned and widespread employment of tanks, need of grading movements among successive ambushes. Hence, the worrying conclusion according to which the operation could not continue unless penetration routes were reclaimed by dismounted infantry. Another

bitter surprise came from the fire support sector. The Artillery, used to maximum mobility and perfectly gauged to the manoeuvring employment of the armoured forces, found itself completely out of place in an environment which favoured the conceptual absurdity of an employment "by piece" with a proper sharpshooter technique. We may get a rough idea of the crisis caused by the above if we consider that 55% of the casualties was attributed to portable weapons. Compared to previous conflicts, losses due to psychological pathology were also very high.

The percentage in the Vietnam war was 53% with a lower rate even in the field of psychological pathology. Another Army, having to retrench "in itinere", organization employment doctrines and training methods, would have faced certain disaster, as regards tactics at least. This was not the case, only thanks to the unique capacities of reaction, without functional hysteresis, that two thousand years of Diaspora and forty years of siege have activated in the Armed Forces of Israel. Moreover, we must of course consider the exceptional degree of individual training at all levels. The Middle East is not only the cradle of the three monotheist religions, but also an inexhaustible source of teachings in many other fields. This could not be otherwise since a state with a very high technological preparation and a strong determination to survive was inserted in a millenarian, traditional and indomitable local conflictuality. But let us go back to the question of training. We can divide it into two basic points: training as a whole and individual training. The latter may then be split up in physical training and combat training, the former may be limited to interactions of individual training in the employment of a minor complex considered as the basic element for all other employment formations. Individual training is

the field of exploration most exciting and congenial to us as it may be classified among the "cheap" forms of training. It is however as cheap as it is essential and this must be stated quite clearly. In fact:

— Physical training is the first step for any enterprise requiring both determination and dynamic performance. Its attraction is due to the fascinating consideration that it may start and end in the barracks without disturbing anyone as long as the necessary equipment is available. With the help of some imagination, the latter requires modest resources.

Another attraction is the consideration that it may cover programme gaps or instructors' lack of professionalism as well as the boredom and repetition of some drill, no matter how necessary this may be.

— Combat training in all its forms such as personal defence techniques, instinctive firing techniques and movement on the battle field, represents the next step. This kind of training requires a greater availability of didactic equipment and electronic simulators. The cost is higher. However, it may be carried out entirely within the unit's infrastructure.

The possibility of carrying out this essential form of training within our barracks justifies the apparently limiting label of "cheap" and gives some kind of indication for the infrastructures to be created ex novo and for the modernisation of the existing ones.

The introduction of the individual soldier first in the team and then in the minor complex may be considered the end of the entire training cycle. In this respect, the following may be said:

— The above must take place in full observance of the general setting for a correct employment of the unit's specificities.

— The introduction in the team, considered as a homogenous formation, achieves

the didactic aim of making the soldier feel at home as much as possible. It must be considered as a mainly theoretic stage which may be developed in previously organized and limited areas. Moreover, as it is mainly based on team techniques, it may even do without the above mentioned setting. The training within the squad may even be carried out within the barracks as long as an area not much bigger than a football field is available.

— The theoretic schematizations allowed at the squad stage are not permitted at the following stage, that of the minor complex. In fact here prevail operational employment features, especially planned for the unit described and thus it is necessary to use areas outside the barracks. The dimensions of the above areas and the public disturbance caused will be contrarily proportioned to the level of advance infrastructural organisation and the availability of simulators. The latter, in particular, will also allow an extremely profitable training with opposing parties.

Lastly, the great multiplying factor represented by the use of audiovideo equipment at all training stages must also be borne in mind. Not only for the initial demonstration and set up, but also and especially for the comments and explanations on recordings made during the actual performance of exercises. Nothing is more instructive than the observation of wrong performances which being often due to emotional involvement are objectively considered in a distorted manner by the performer.

CONCLUSIONS

The variety of the above considerations and the risk of saying commonplaces makes it necessary for me to conclude with a brief summary.



whatever infrastructure and training area already available and employing simulators and audiovideo equipment whenever possible.

— Individual training is the most important stage as it is the basis for any further development and because it may easily be carried out within our normal structures. Moreover, particularly in its sports component, it keeps the participation of staff at a high number even during the inevitable slacks of the unit's life.

— Team training centred on the minor complex, must comply with the features of the general scene marked by the employment specificities of the unit concerned.

— The barracks must aim at ensuring all the necessary space for the development of individual training and for the initial stage of team training. The idea of "college" must be considered with a view to the above.

In conclusion, I must repeat that to speak of training will never be idle or pleonastic. Actually, it will make us overcome conditioning caused by habit, mental laziness and narrow horizons imposed by the need to operate in a permanent lack of resources. If imagination and a greater training mobility allows us to overcome the usual training conditions we will easily avoid the dullness of the "sentry-box", stimulate curiosity and attention to new ideas. Attention and curiosity are now acknowledged as the bases of evolution of all living creatures, whether man or beast.

Lt. Gen. Lucio Innecco

— Training, which is a basic point for the efficiency of any Armed Force, cannot be kept apart from the conceptual vision of the situation in which the Force is supposed to operate.

In particular, it must consider the permanent lack of

available resources and the reality of the environment which are forever reducing the possible areas of operation. In any case, training is the field in which, despite the said difficulties, improvement is still possible with a reasonable expenditure, by working on

NOTE

(1) The first is the doctrine of employment of the U.S. Army. The second (Follow on Forces Attack) is an operational NATO concept which envisages the intervention on the second echelons.

il gruppo italstat

opera nel settore dell'ingegneria civile e della costruzione e gestione di grandi infrastrutture attraverso il controllo di sette comparti operativi nei quali si raggruppano le società controllate e collegate:

- *servizi di ingegneria*
- *costruzioni generali e grandi lavori*
- *concessionarie di costruzione e gestione di infrastrutture*
- *manutenzione di opere pubbliche ed infrastrutture*
- *concessionarie di edilizia pubblica e di servizio*
- *costruzioni di edilizia residenziale e sociale*
- *infrastrutture urbane di pubblico interesse.*

Le aziende del gruppo italstat costituiscono uno strumento cui le amministrazioni centrali o locali possono ricorrere per avviare concretamente a soluzione i problemi posti dalla realizzazione di importanti programmi di opere pubbliche, nei vari aspetti propositivi, organizzativi, esecutivi o di supporto.

Progettazione, coordinamento esecutivo, esecuzione, esercizio di qualsiasi opera di ingegneria civile, tutte le fasi cioè del processo realizzativo e della vita di una costruzione, costituiscono la principale specializzazione del gruppo italstat.

PRINCIPALI AZIENDE DEL GRUPPO

Autostrade
Autostrada
Pedemontana-Lombarda
Autostrada
Torino-Savona
Bonifica
Castalia
Cidonio
Condotte d'Acqua
Con.Piem.
Edil.Pro.
Edilveneziana
Garboli
Idrovie
Im.Co
Infrasud Progetti
Intermetro
Isa
Italcontractors
Italeco
Italedil
Italgenco
Italiana Monte Bianco
Italpark
Italposte
Italstat International
Italstrade
Italteknà
Italter
Mantelli
Mantelli Estero
Mededil
Metroroma
Pavimental
Ptm
Rav
Rep
Sappro
Sat
Siaca
Sicit
Sistemi Urbani
Società Autostrade
Meridionali
Sotecni
Spamo
Spea
Stretto di Messina
Svei
Tangenziale di Napoli

gruppo

iri-italstat

THE MECHANIZED AND AR



ARMoured MINOR COMPLEX



Publication No. 923 of the doctrinal series, published in 1986, fits into the views outlined in publication No. 922 "Employment of the mechanized and armoured combat group" and aims at supplying a set of instructions and regulations on the employment of the mechanized and armoured minor complex.

Rivista Militare, aware of the importance of the issue, publishes, starting from this number, a series of articles with the purpose of contributing to the technical and professional updating of the Commanders at the lower levels.

THE MECHANIZED AND ARMOURED MINOR COMPLEX IN THE DEFENSIVE COMBAT

The minor complex is a variable part of homogeneous or mixed forces placed under a single command and fit for all the elementary tactical acts of combat.

The base on which it is established is the company or — on mountains, in forests and urban areas — the platoon and, as a rule, it acts within the tactical group.

It is called "mechanized" when mechanized platoons prevail; "armoured" when there is a prevalence of tank platoons or when the latter are the same in number as the mechanized platoons. It generally consists of antitank units, sometimes mortars and Engineer units. It may be assisted by fire erogated by mortars, artillery and ALE (Army Aviation) by the tactical air forces and by antiaircraft weapon systems.

The availability of a wide spectrum of weapons, very diversified in their performance, makes fire — together with movement — one of the main instruments of the action of a minor complex. For this reason, the Commander must organize fire very carefully, coordinating it with movement.

DEFENCE OF POSITIONS

This is carried out through structures (strongholds, antitank deployments, permanent fortifications, and sectors of minefields with blocking functions).

ELEMENTARY TACTICAL ACTIONS OF DEFENSIVE COMBAT

UNDETERMINED TIME DEFENCE

TEMPORARY DEFENCE

DYNAMIC OPPOSITION

DYNAMIC REACTION

The defence may be as follows:

- carried out in undetermined time;
- temporary.

UNDETERMINED TIME DEFENCE

It aims at guaranteeing the availability of positions of the utmost importance as regards the Resistance Position, performances of dynamic reactions or connection with conterminal sectors.

Therefore, the positions held may be abandoned *only on orders* of the Headquarters (of the Major Unit or of the tactical group) which had decided its activation.

As a rule, minor mechanized complexes (homogeneous or mixed) including antitank systems, observer officers and if necessary elements of the Engineer Corps, are in charge of defence.

The defence is carried out on positions having a high intrinsic force and, according to the weapon systems allotted, it may act chiefly in an antitank or antipersonnel role.

The most suitable structure for this elementary tactical act is the stronghold, normally nuclear or in exceptional cases marked by uniqueness of command; tactical mastering of the access ways to be blocked; complete tactical and logistic self-sufficiency; *360° reactivity*.

The nuclear strongpoint is divided in unitarian platoon structures co-operating one with the other. One or two of these may be formed by antitank deployments.

The unitarian strongpoint, instead, is subdivided in conterminal sectors garrisoned by platoons organized into co-operating resistance centres.

The Commander of the minor complex in charge of establishing a strongpoint develops the relevant conceptual activity and determines the following:

— avenues of approach to be blocked

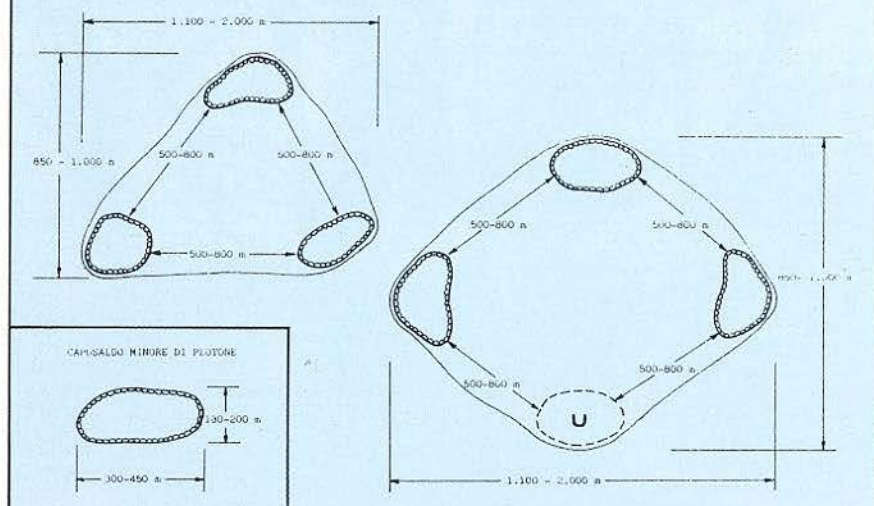
— blocked positions to be garrisoned (in integration of the essential topographic details indicated by the Commander of the tactical group);

— initial gravitation of forces, fire and obstacle;





THE UNITARIAN STRONGPOINT



— employment of the support.

The support may be employed to strengthen the most tried or engaged platoon strongpoint, to garrison for some particular reason positions which may block possible infiltrations or integrate the action of advanced strongpoints, to develop dynamic reaction.

Dynamic reactions, which often have offensive characteristics, aim at guaranteeing the working capacity of the platoon strongpoints or at re-gaining positions formerly lost or compromised, and may develop into a subsequent dynamic opposition.

In any case, the dynamic reaction supported by all the available fire, must:

- be firm and timely;
- exploit surprise and favourable positions;
- aim at striking the aggressor's flank;
- develop the highest possible power on the front.

TEMPORARY DEFENCE

It aims at wearing out the enemy with fire at a maximum distance, hindering its manoeuvres or slowing it down or, where possible, blocking it thus favouring the action of other forces defending positions, encouraging the performance of dynamic

reactions and so guaranteeing the safety on flanks or the soldering with conterminal sectors.

As a rule, it is better to avoid the hinging and outflanking of forces when carrying out the temporary defence, so that they may be recovered and the defence in depth may be repeated.

Generally, mixed mechanized and mixed armoured minor complexes are in charge of the defence in depth. They include antitank weapon systems, an observer officer and, when necessary, elements of the Engineer Corps.

It may carry out an antitank and antipersonnel function. The most suitable structures for temporary defence of positions are the **antitank deployment** and the **strongpoint with a markedly long shape** characterized by uniqueness of command, tactic mastery of the facility ways to be blocked, tactical and logistic self-sufficiency suited to the foreseen length of the action, **organization fit to give maximum fire power at the front**, a shape modelled on the obstacle (minefield, stream, ridge).

The Commander of a minor complex in charge of establishing an antitank deployment or activating a strongpoint with a markedly long shape develops the relative

Mechanized units are characterized by high employment flexibility due to their suitability to act from vehicles and on foot without much varying the operational capacity.

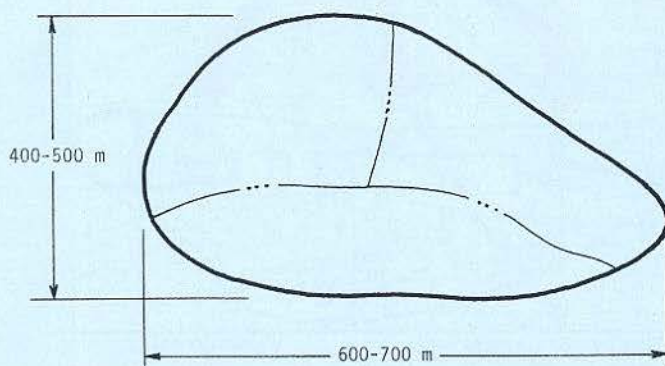
They are equipped with a vast range of arm systems and are fit to maintain, for a long time if necessary, the possession of position acting in defence. The action of mechanised troops is based on the reactivity of the units and of the single men, on the mobility and the exploitation of the terrain and the fire.



Tank units are characterized by mobility, power, protection and firing speed of the main weapon and are scarcely vulnerable to artillery, mortars and small calibre fire. The action of tanks is always aggressive in the dynamic stages, cautious in the methodic or temporarily static stages and is based on the steady exploitation of anything that might give protection, surprise and effectiveness of fire.



THE NUCLEAR STRONGPOINT



conceptual activity and defines the following:

- avenues of approach to be blocked;
- blocked positions of the above to be garrisoned (in integration of the essential topographical particulars indicated by the Commander of the tactical group);
- initial gravitation of forces, fire and obstacle.

As a rule, the antitank deployment and the long-shaped strongpoint have no support. If, however, temporary defence should go on for an undetermined length of time, the Commander of the complex establishes on the moment or designates a support unit, giving it the indications regarding its employment.

The organization of the positions consists in the choice of fire positions to be assigned to the available weapons, so that their integrated firing action may start — simultaneously, with the greatest possible power and at the limit of the useful range — on the front of the structure.

DEVELOPMENT OF THE ACTION

In the defence of positions (temporary or not) the action starts with fire erogated at the greatest distances from the weapon systems pointing to the front of the structure, deployed on the positions chosen by the

Commander of the complex to avoid surprise attacks, exhaust and slow down the enemy and spot out the direction of the attack. Artillery and mortars intervene on enemy formations — especially on the avenues of approach — to hinder their movement.

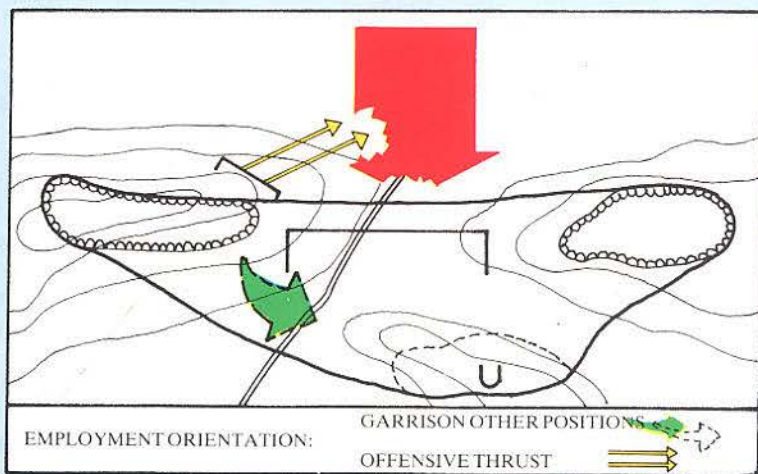
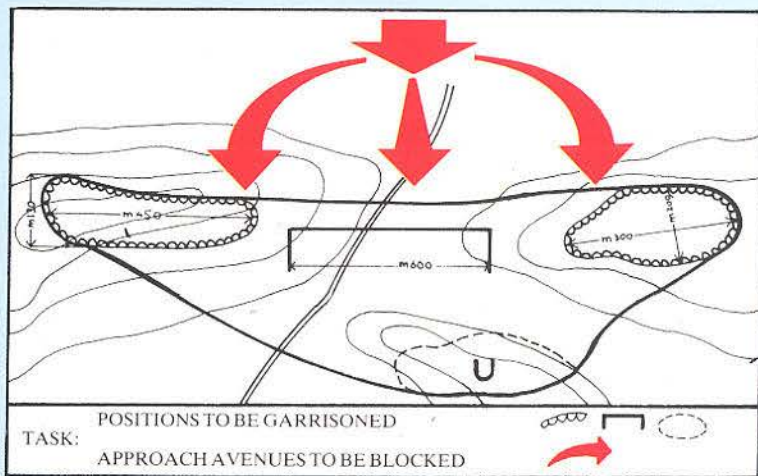
The advanced weapon systems, proceeding on different and lateral routes as regards the sectors of intervention, withdraw in order to carry on the action inside the structure.

When the enemy enters the range of the arms deployed in the structure, the different weapon systems fire as far as possible and concentrate all actions on the most rewarding and dangerous objectives.

The Commander of the minor complex sustains the action of the platoons with the intervention of the arm systems if they are kept at his orders and demands artillery and mortar fire to give priority to the enemy's concentrations and fire bases. When the enemy forces reach the antitank minefield and are thereby slackened or blocked, the fire of all the weapons of the structure, capable of intervening, reaches maximum intensity and must aim at achieving the maximum wear of the attacker.

If enemy elements manage to open passages in the minefield, the fire of all

THE STRONGPOINT - TASKS AND ORIENTATION



available weapons must be directed on the passages, to limit the entity of penetrations.

The Commander of the minor complex informs the tactical group Commander of the developments of the situation and continues fighting, employing, if necessary, successive fire positions until the Commander of the tactical group orders to abandon the structure. As we have noticed, the conduct of the defence, both as regards temporary and undetermined time defence, develops with modalities which do not differ substantially, at least in the first stages. The

Commander of the strongpoint may be ordered to abandon the structure just as the Commander of the antitank deployment may be ordered to carry out an undetermined time defence. In both cases the forces which garrison the structure **remain on the spot** until the tactical group Commander decides and orders to abandon it.

The above retreat may be favoured by the intervention of units carrying out a dynamic action. When this is not possible, contact is broken up by part of the forces in the following order:

— first, the longest range arm systems which deploy on rear positions from where they may, however, strike the enemy formations;

— the mechanized with short range arm systems follow:

— lastly, the still available tank units, which alternate fire and movement.

Withdrawal terminates on the assigned rear positions or may give rise to another elementary tactical act: the dynamic opposition.

DYNAMIC OPPOSITION

This aims at exhausting and slowing down the attacker by a dynamic resistance based on maximum distance erogation of all available fire, designed to block the enemy.

It is usually carried out following or before position defence or dynamic reaction and aims at obtaining maximum results and avoiding, at the same time, an excessive wear of the unit effecting it.

It is normally the duty of armoured complexes (homogeneous or mixed) or mixed mechanized complexes including antitank arm systems, observer officers and possibly elements of the Engineer Corps; it may also be carried out by dismounted units, against similar forces and in particular terrains.

The following are the characteristic elements of the dynamic opposition.

- the constant search for surprise;
- fire at the maximum distance;
- exploitation of the terrain.

The Commander of the minor Complex in charge of carrying out the dynamic opposition develops the relative conceptual activity determining the following:

- avenues of approach to be blocked;
- blocked positions of the above, to be garrisoned in succession, in integration of essential topographical particulars indicated by the tactical group Commander;

- timing of the action;
- initial gravitation of forces, fire and obstacle.

The dynamics of the action and the opportunity of erogating maximum distance fire advise against forming a support in advance.

The minor complex which has the task of carrying out the dynamic opposition adopts a different structure according to wheter the action is conducted:

- on a vast front (up to 5 Km) and against enemy formations of little consistency (the delaying action is a typical case);
- on a restrained front (up to 2 Km) and against enemy formations of remarkable consistency (action carried out in the resistance position).

DYNAMIC OPPOSITION ON A VAST FRONT

The minor complex consists of one (and possibly two) blocking posts and two or three patrols.

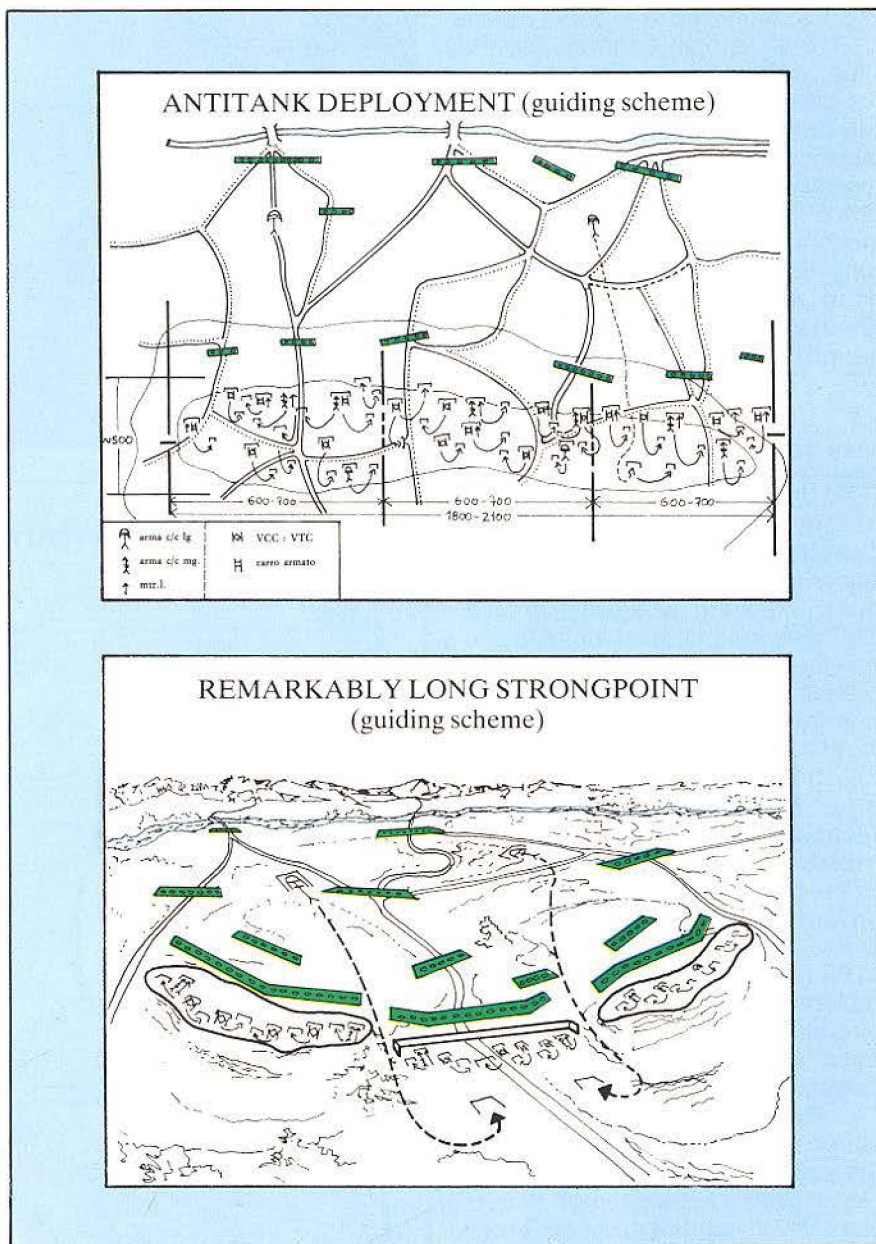
The blocking post is the basic element of the action. It is made of forces at reinforced platoon level which normally include 2-3 rifle squads, 2-3 long and medium range antitank weapon systems, elements of the Engineer Corps, Observer officer and, when possible, 2-3 tanks.

Its task consists in making the enemy stop several times against strong positions and operates along a main avenue of approach developing distance fire actions, especially antitank.

Moreover, it guarantees the control of very protected areas close to activated positions, detaching the outguard.

Patrols represent the most dynamic element of the minor complex. Their entity varies according to environment and situations. Generally, each patrol is formed by 2-5 tanks, 1-2 riflemen teams, an observer officer, elements of the Engineer Corps if required, as well as long and medium range antitank systems.

Patrols have the task of gathering information, preventing enemy patrols, contributing to



wearing out and delaying the enemy. They operate in a vast space up to 2.5 Km, in the intervals between the roads defended by blocking posts.

DEVELOPMENT OF THE ACTION

The action begins with the blocking post deployed in positions usually strengthened by an artificial obstacle and with patrols projected forward.

When the enemy reaches the maximum firing distances, patrols start firing and keep the contact as long as possible. Under the thrust of the enemy, the patrols repeat their

intervention from rear positions aiming at making the enemy converge on the road blocking post.

The latter, as soon as it is able to intervene, starts a maximum distance firing action and carries it on until it is in danger of being outflanked or engaged. Meanwhile, the patrols avoid the outflanking of the blocking post, facilitating its disengagement if necessary.

When the blocking post starts its backward movement towards the new position, patrols once more take control of the entire sector, to repeat the action in depth.

The antitank units are a fundamental component of the battle against enemy armoured vehicles. Antitank weapon systems exploit their firing range as far as possible, often change position and look for edges from which to fire and, at the same time, reduce the effect of the enemy weapons.

DYNAMIC OPPOSITION ON A LIMITED FRONT

In this case, the minor complex is divided into 3-4 elements at platoon level, each including at least 2-3 antitank long and medium range weapon systems, possibly an observer officer and elements of the Engineer Corps.

It usually acts along a direction indicated by the tactical group Commander (which coincide with an avenue of approach) and in an area 2 Km wide and 2 to 7 Km deep (average depth of a tactic group sector in the resistance position) with the operating parts under the strict coordination of the Commander of the complex.

The dynamic opposition consists in the combination of the following simple actions:

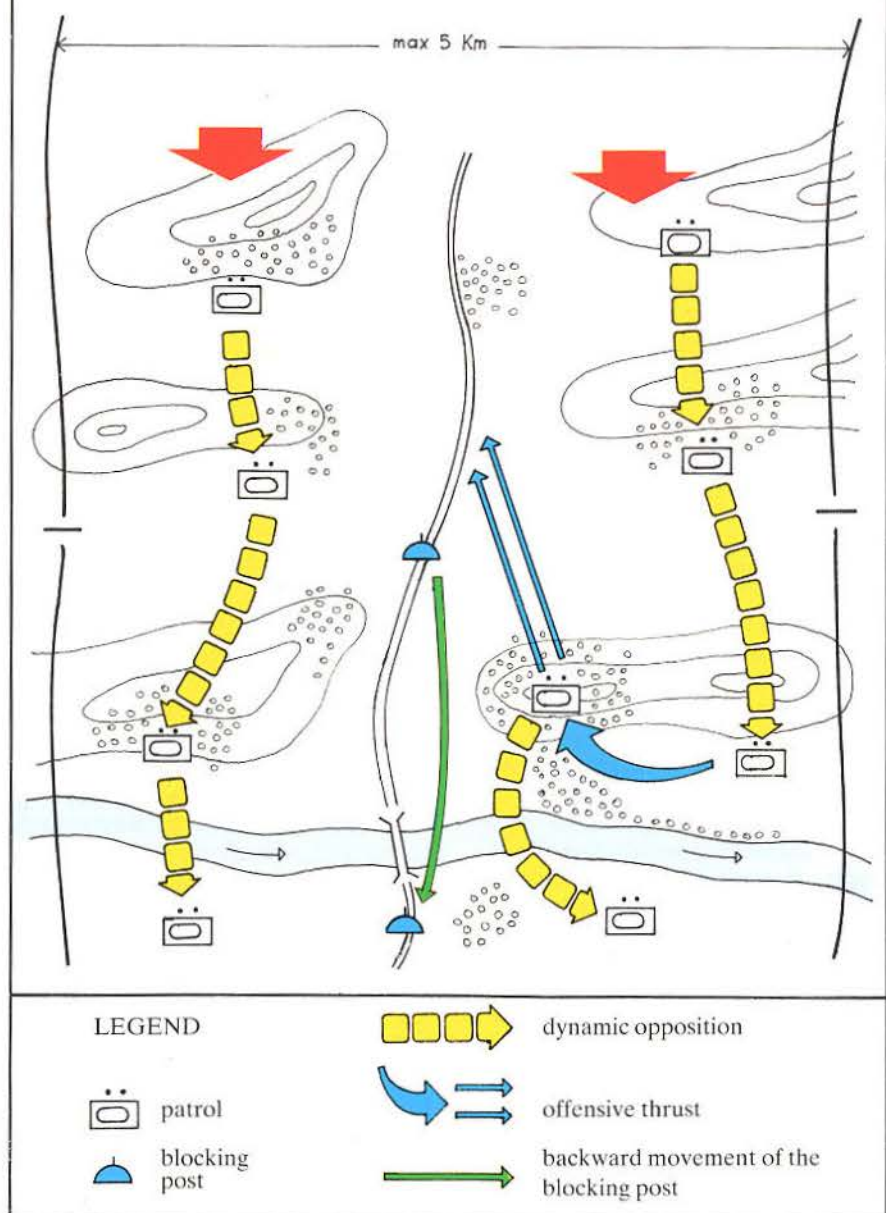
- **static actions**, in connection with natural and artificial obstacles, during which ambush fire makes the enemy stop or slow down its formations, organization and movement directions;
- **backward movements**, to reach new positions;
- **offensive thrusts**, carried out from favourable positions, possibly prepared in advance.

DEVELOPMENT OF THE ACTION

As a rule, the action starts with all advanced platoons operating according to the proceedings of temporary defence from a



DYNAMIC OPPOSITION ON A VAST FRONT





linear position chosen in correspondence with a natural or artificial obstacle.

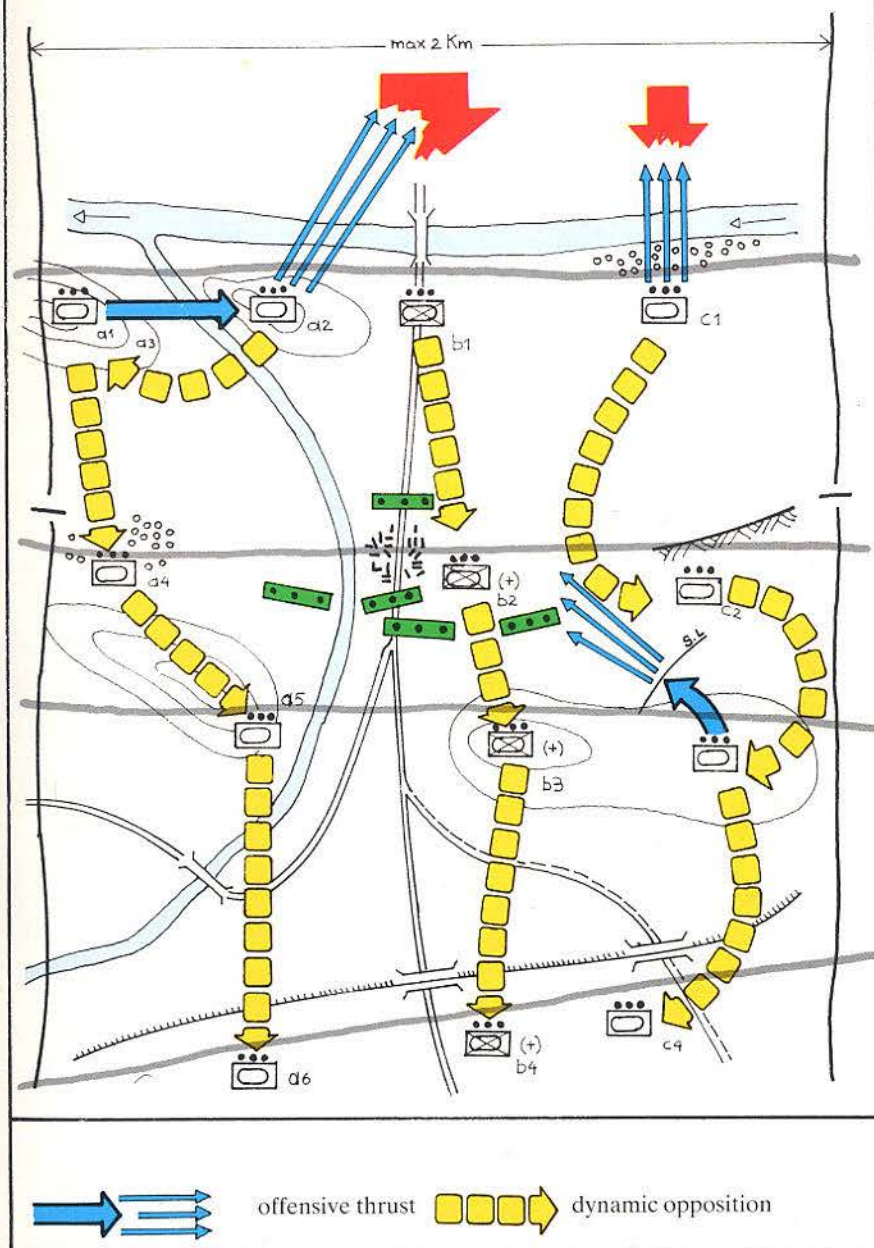
When the deployment is no longer conveniently defensible, the complex Commander orders to abandon the positions and co-ordinates the actions of the platoons, which move as follows:

— retreat from the positions in groups, under the protection of the fire of 1-2 platoons and possibly by artillery, mortars and helicopters.

— subsequent movement carried out, by each platoon, along covered routes and by taking advantage of smoke screens. It terminates on rear positions from where it is possible to have the control of the enemy or, in particular situations, on positions favouring offensive thrusts.

In each stage of the action, the essential elements of success are fire, surprise, steady mutual assistance among platoons and the speed at which movements are performed.

RESTRAINED FRONT DYNAMIC OPPOSITION



DYNAMIC REACTION

It aims at restoring a compromised or critical situation, favouring the performing capacity of a static element of defence or, in particularly favourable situations, destroying enemy forces, regaining lost positions and bringing defence forward once more.

As a rule, the reserve of the tactical group is in charge of this action. The reserve is formed by an armoured minor complex or, when convenient, a mechanized complex acting from combat vehicles; it presupposes that the following be achieved:

- a favourable or at least even ratio of forces, obtained through a preventive exhaustion of the enemy forces;
- the frontal blocking, or at least the slowing down of the enemy penetration, obtained by another active element of the defence.

Moreover, the dynamic reaction:

- is carried out from favourable positions, against an objective of limited depth, along a direction aiming at the flank of the enemy and is supported by all available fire;

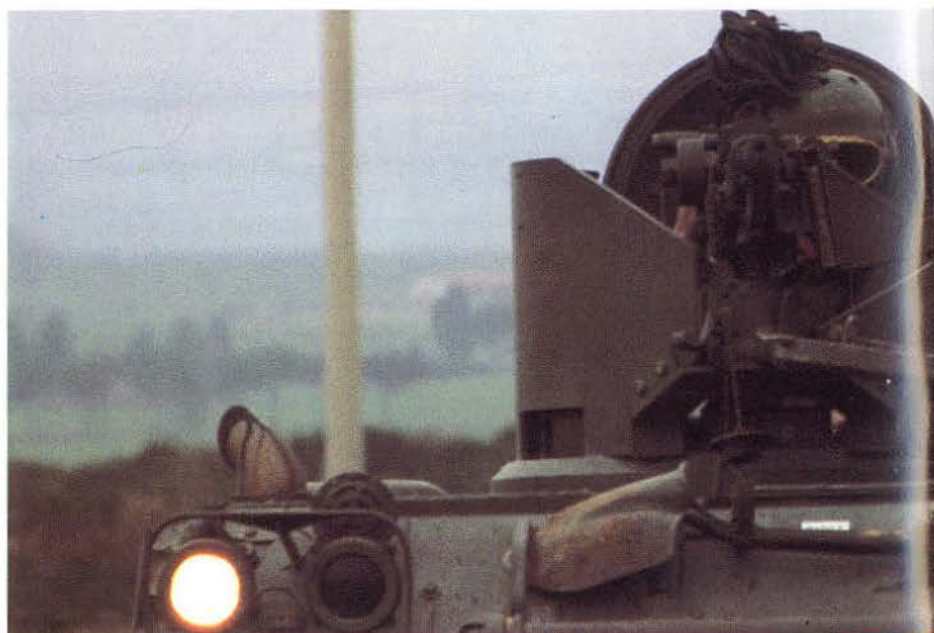
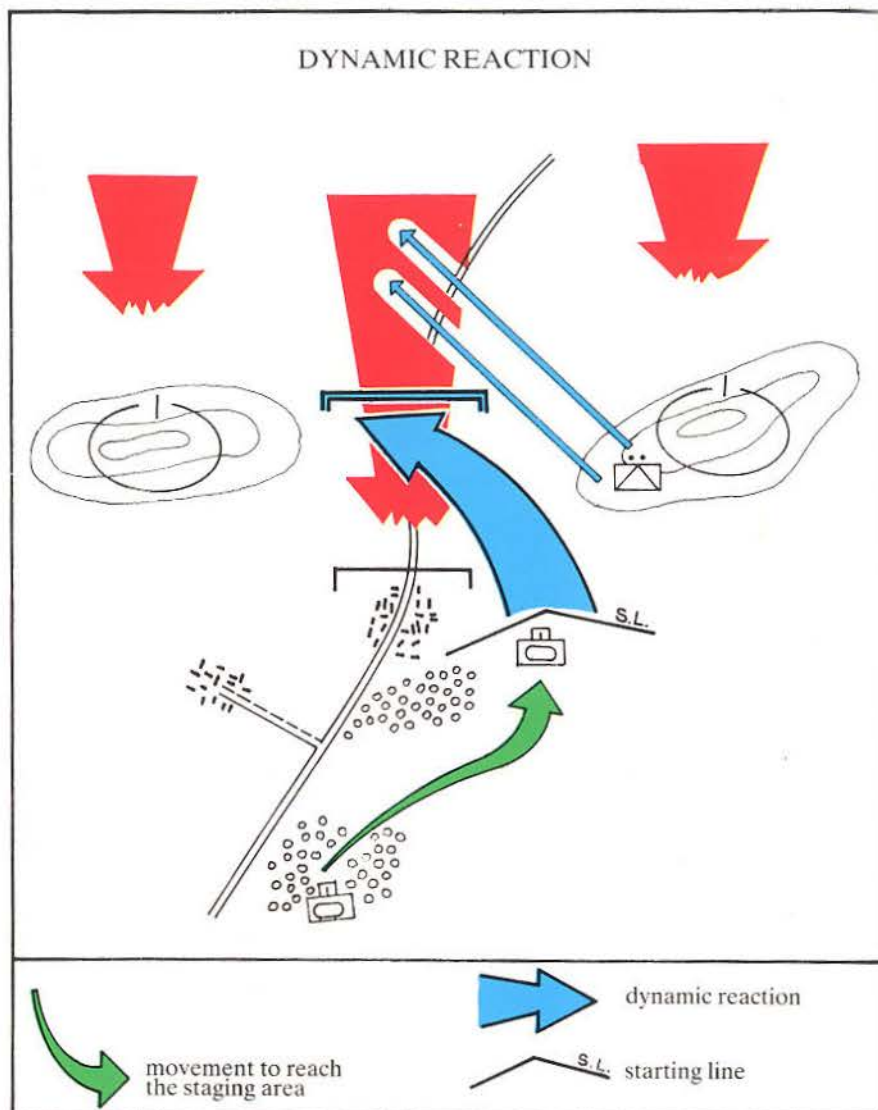
- may be concluded with the strengthening of the positions while waiting for an eventual replacement, or with the continuation of the efforts in depth or with the start of another elementary tactical act;

- it may take on the aspect of an offensive thrust.

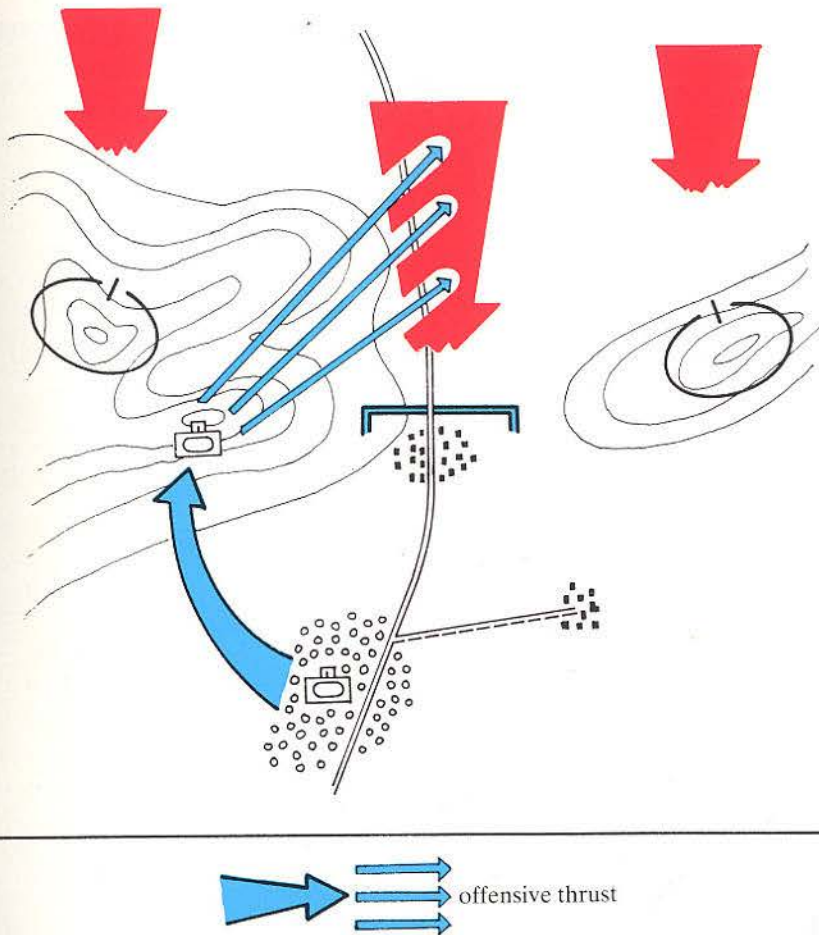
The limited depth of the objective and the sustained rhythm of the action suggest that it is convenient to employ all the advanced platoons in order to act at the front with the highest possible firing power and renounce the idea of the constitution of an armoured support.

DEVELOPMENT OF THE ACTION

The minor complex which is to carry out the dynamic reaction generally begins the action from an area of initial deployment. In expectation of the employment, on orders by the tactical group Commander, the complex reaches the subsequent location zone, usually chosen in advance, in relation to each reaction hypothesis. Once the minor complex has taken up its attack formations and deployed the long and medium antitank weapon systems on positions suitable for accompanying the action, it abandons the area, crosses the starting line and attacks the enemy forces — along the assigned direction — and aims at destroying them. The dynamic reaction, supported by all the available fire, is initially developed by a linear formation and the sudden and simultaneous action of all the weapons, in order to inflict the enemy the greatest possible number of casualties before it can organise an efficient counter-manoeuve. Then the attack continues combining fire and movement with alternate bounds (by platoon or within the individual platoons).



OFFENSIVE THRUST



About 300-400 m from the advanced elements of the enemy formation, in correspondence to a line established in advance, the platoons interrupt the alternation of fire and movement, point simultaneously and decidedly on the objective and eliminate the remaining enemy forces by employing all their automatic weapons. At this stage a platoon, generally mechanized, mops up the objective. This is of the utmost importance for the subsequent consolidation.

THE OFFENSIVE THRUST

It aims at strengthening the resistance capability of a structure, lighten the pressure on another friendly unit or favour the disengagement of tactical complexes in contact. It is a tactical movement aiming at reaching the firing positions, prepared in advance or not, from which to fire with maximum efficiency and security. It differs substantially from the dynamic reaction for it may be developed also in conditions of local inferiority. The minor complex performing it moves from an area close to the employment zone, moves quickly and briefly along a protected route and reaches the rear of the firing positions to be used. All combat vehicles simultaneously occupy the appointed position, with their hulls in defiladed positions, and start firing simultaneously, as a norm on the flank of the enemy formation. After the first firing (a maximum of 2-3 shots for each tank or antitank weapon), the platoon leaders co-ordinate the occupation of alternative emplacements through brief "combing" movements. Once the firing action is finished, the minor complex may:

- in favourable cases, start a dynamic reaction;
- retreat along a defiladed route to reach the assigned location zone or a new firing edge from which to carry out a new offensive thrust;
- carry out a different elementary tactical act (dynamic opposition).



NON-COMMISSIONED OFFICERS

Training, Selection, Employment



When speaking of non-commissioned officers it is usual to state that they are the "backbone" of an army, the pivot of a unit and that they affect their solidity and efficiency.

In fact, non-commissioned officers have always taken care personally of the soldiers, guiding, supporting, spurring them and making sure they get what they need; they take care of their formal aspect, physical efficiency, hygiene; they give them individual and team training, bring and keep them at an acceptable global standard.

It is the non-commissioned officers who carry out administrative jobs, keep weapons and materials efficient

with a view to operations. They survey the working order and maintenance of the infrastructure, make detailed plans, direct and control the ordinary operations.

In brief, today as yesterday and tomorrow, it is the non-commissioned officers who run companies and battalions thus leaving officers time enough to command them.

The above is however true only in those armies having a consistent corps of non-commissioned officers, well trained and selected, motivated by well-defined duties and by an accentuated formal importance, a corps of non-commissioned officers subject to that of officers, different in

its functions, but not inferior as regards decorum, professional value and self-esteem.

It is a problem of **quality, quantity and motivation!** Even if only one of the above is missing, non-commissioned officers tend to intimately detach themselves from the soldiers, lose interest in the unit, search refuge behind a writing desk to become little bureaucrats and end up by experiencing only the physical and family inconveniences of military life, the burden of obedience, the modest economic retribution.

I have had reason to meditate at length on this when the School for Non Commissioned Cadets, which I

had the honour to command, was assigned in 1985 the task of developing the training programmes for the basic course of the formative process.

At that time we already wondered what kind of non-commissioned officers would be required in the future. Moreover, we were already forming cadets which would have been discharged around the year 2020! The reference points were quite clear.

On the one hand, the operational doctrine with the apocalyptic vision of a modern war with the need that, on the battlefield, all elements move automatically, synchronically, with minimum control; this requires moral firmness, determination, capacity of judgement, initiative, technical competence — in one word, leadership — of the commanders of minor units.

Then there is the enlisted personnel. Well-known qualities, but also immaturity, diffused interior fragility, comprehensible difficulties in adapting to a new life. These are all factors requiring, in direct contact with soldiers, numerous, capable and motivated cadres.

The third element is the acquisition of informatics which, though enhancing the training possibilities, is likely to make the present manual practices obsolete.

Lastly, the rapid development of the equipment, not necessarily more difficult to use, but ever more often not resistant enough to be "soldier-proof".

It was assumed, generally speaking, that reenlisted soldiers would have been employed as operators and repairers and that non-commissioned officers should have carried out the most burdensome training, organizational and control jobs, both as regards employment and maintenance of materials.

It was easy to conclude that in the future the Army must have many non-commissioned officers, that the image of the minor unit commanders will have to be



revalued vis-à-vis the technicians, that both the former and the latter will need more capacity and determination in establishing the right relationship with soldiers instead of avoiding all contacts with them, that they will have to act with greater initiative and decisional capacity. We thus go back to what has been said before: quantity, quality and motivation.

It is well-known that the 27.700 regular non-commissioned officers allowed by law, would only satisfy 3/4 of the requirements even in the absence of particular problems and that we may recruit sergeants only in respect of the normal vacancies in the regular component. Otherwise, to make room for the young, we should

discharge the eldest after 20-22 years of service, as is the case in other armies.

It is less known that our war organization, and above all the peacetime formations, are rather scarce; it is sufficient to compare them to those of other western armies.

It must be added that often the availability in the units is even lower and that the deficiencies regard squad commanders, thus depriving soldiers of their natural instructor — I would say of their point of support — with clear implications regarding physical safety and psychological support, not to speak of training efficiency. We may thus imagine how important it is, for the units, that the Bill of Law on the



organic increase in Non-commissioned officers, long in itinere, be approved.

Quality is the result of continuous training and continuous selection. Fortunately, in the last years it has been possible to enlist more valid cadets, over a third of which however will not pass the global formative procedure which we may consider suited to the needs of the year 2000.

In particular, the programme of the basic course favours that social-cultural aspect which has a more direct impact on the relationship between non-commissioned officers and soldiers, core of a correct action of command. I must underline here that not even in the future will the non-commissioned officer have to expatiate on the maximum systems, but undoubtedly setting the example and knowing the "tools of his trade" is not enough anymore though it remains the main pivot of professionalism.

To have some influence on soldiers, our non-commissioned officer must also have a correct *Aplomb*, express himself in good Italian, know at least the basic elements of psychology and training technique and be up to date on the main contemporary topics, so that he will not have social and cultural complexes, make quite clear

what he is explaining and commanding, solve problems with method, act with firmness and authority... without raising his voice!

I believe that the recent years have been bountiful in provisions aiming at elevating the quality in the future. This result should be safeguarded from those who would like to return to the *Todos Caballeros* policy of the recent past; it is a process which we should continue.

The fact that merit has become the basis on which to promote officers is the first step towards a more valid selection.

It is true that access to the maximum level is still granted to those considered fit, i.e. almost to everyone, but today the best may gain up to 5 years as regards their less capable colleagues and moreover they may reach the rank of lieutenant in the technical and administrative list at a relatively young age.

This provision has already had important effects shaking many men from apathy but, if the aim is to reward the best and keep everyone reasonably "on the go", a *selective* evaluation from Warrant Officer to Chief Warrant Officer could also be introduced.

Service in the units should, however, be a clear advantage

and unit command should likewise be hyperevaluated.

It would also be appropriate that the title of adjutant should not be related with the mere passing of years, but take on a character of choice, formally distinguishing the more deserving from those who simply have no demerits. The Lire 25,000 per month, before taxes, granted for the title might as well be given to everyone, so as not to continue confounding things sacred and profane.

As regards training, the establishment of a professional refresher course (IGP) has partly filled the gap existing in that sector. According to me, it is not advisable to anticipate the attendance to the course before going in for promotion to Warrant Officer. Instead, I deem useful the attendance to a second course before going in for promotion to Warrant Officer First Class.

Moreover, as has been the case in other armies for a long time, the establishment of a semestral or annual physical test for service in a unit would be greatly desirable.

Motivation conditions the individual output and collective results; the individual commits himself if he is aware of his usefulness, if he sees a purpose in his work, if he is individually and publicly made responsible of what he does or does not do, if he thinks he can gain or lose prestige within the organization he is working for... Otherwise, more often than not, he fades away.

I said at the beginning that the non-commissioned officers are the main pivot of good units, I must now add that it is the officers who form and select good non-commissioned officers for they decide in which environmental conditions they will have to act, give them authority, praise them and support them in the eyes of the soldiers, reward and punish them, correct them, if necessary, without interfering in their work.

As far as I am concerned, I have noticed, during a long service in the British Army, what can be obtained from non-commissioned officers when they are given precise responsibilities at organizational level, a certain freedom of action, much authority... and much work, all of this keeping them well under control with the necessary fair play. Afterwards, the officer may well go and stroke the horses with white gloves without diminishing either his own prestige or that of the non-commissioned officer.

However, if the system must work, a sort of "line of technical dependence" is necessary. This line, starting from the mythical first sergeant of a regiment goes down to the platoon leader, a chain which, for instance, exists in the American army too.

Moreover, if we consider the German organization, we note only one junior officer in the company, who is also the "executive"; the remaining platoons are headed by non-commissioned officers with at least 4 years of service, chosen among the most reliable men of equal rank.

I have often taken these models for an example; without difficulty in Cavalry, but also in Viterbo, I positively struck the imagination of cadets who, instead of identifying the non-commissioned officer with the writing desk, the depot or maybe the unskilled work, saw him engaged in personnel management and instruction, in external activities with the same knapsack of the cadets, and they looked with timid admiration at the School Warrant Officer drilling the battalions under the attentive look of the officers.

I have certainly not brought forth particularly original ideas, indeed I am convinced that in the future a good non-commissioned officer will have the same tasks he has always had in every efficient army, but times change and he must be trained to act in a human,



operational and technical environment which becomes gradually more complicated, bearing well in mind that the so-called "good executors" will be dead weight in the year 2000 even more than they are today and therefore by putting aside, without ill-advised mercy, those who are unfit, we will avoid leaving a bad heritage to those who will come after us.

The formation of a good NCO is a long and difficult process, but it is certainly not a labour of Sisyphus as some say is the case with the training of conscripts. The formation of the non-commissioned officer gives the pleasant illusion of being able to be present in the Army and its Corps for decades after having taken off the honoured uniform, but above all it gives the certainty of giving an important contribution to its efficiency because a good army has never existed without a good non-commissioned officer corps.

Carlo Alfonso Giannatiempo



Colonel Carlo Alfonso Giannatiempo, a Cavalry officer on General Staff duty, attended the "Nunziatella" Military School, the Military Academy, the Ranger Course and the War College.

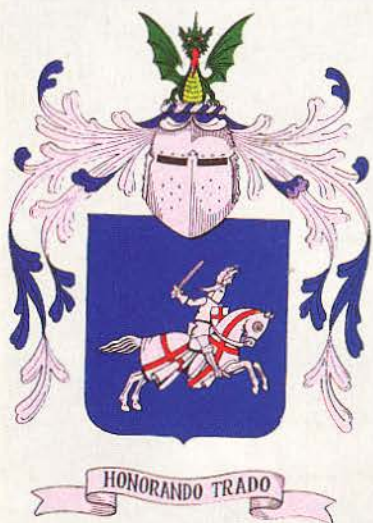
He was platoon leader and troop commander in the "Nizza", "Piemonte" and "Lancieri di Novara" squadrons, and commanded the "Genova Cavalleria" squadron as well as the Non-Commissioned Officer School.

Col. Giannatiempo served with the General Staff of the Military Command of Sicily, the Army General Staff and the Hqs. 6th Field Force of the British Army.

He has also been Section Chief at the office of the Secretary General of Defense, as well as ITALCON Chief of Staff.

At present, Col. Giannatiempo is the Chief of the I Branch of LANDSOUTH.

THE HISTORIC CAVALRY MUSEUM



The desire of Cavalrymen throughout Italy to see the testimonies of the glory of the Arm and of its best men gathered together in a single seat, began to take shape when, on June 20, 1958, the "Associazione Ente Museo Nazionale dell'Arma di Cavalleria" which on June 11, 1960 took the name of "Società Amici del Museo Nazionale della Cavalleria Italiana" was established in Turin. The location was the town of Pinerolo, universally known as the "Cradle of Cavalry", chosen for its long-lived military traditions and for historical and moral reasons.

This choice was particularly suitable because Pinerolo was also the seat of the "Caprilli" riding school which, together with the neighbouring riding grounds of Baudenasca, Mombrone and Baldissero — whose natural and artificial jumps were and could still be a school of courage for young Cavalrymen — completed the premises of the Museum in a harmonious whole rich in history and glory.

The Municipality of Pinerolo, sensitive to cultural issues and tourism and aware of the importance of this institute, granted the Museum a wing of the former Fenulli barracks, once called Principe Amedeo: this place is particularly dear to Cavalrymen of all ranks — since it was the headquarters of the Cavalry Application School for about a century from 1849 — and has become famous in all the world, together with the name of Pinerolo, due to the "Natural Riding Method" of captain **Federico Caprilli**.

On December 21, 1961, the Minister of Defence, by dispatch No. 1603, sent the Chairman of the Società Amici del Museo the following reply: *"IN GRANTING THE REQUEST OF THE NATIONAL COUNCIL OF THE NATIONAL CAVALRY*

ASSOCIATION IT HAS BEEN DECIDED TO ESTABLISH THE HISTORIC MUSEUM OF THE ARM IN THE SEAT OF PINEROLO". The above decision is the true and proper birth certificate of the Museum.

The Director then asked the President that the Museum be given legal status (this occurred by Presidential Decree of July 12, 1966 No. 682) and, subsequently, that he officially open the Museum to the public, on October 13, 1968. Recently, the legal status having expired, the Museum passed under the General Staff by Presidential Decree No. 526 of June 28, 1986; last November, the General Staff decided that the Museum be part of the Application School of Turin.

Having overcome its difficult beginnings, the Museum gradually became richer, due both to the historic material assigned to the Museum by the Army Staff and to the important contribution of public and private boards and single Cavalrymen and their families who sent antiques, uniforms, weapons, books, documents and photographs, thus turning into reality the wish of all Cavalrymen; donations which at first came only from Piedmont, later started arriving from all parts of Italy and nowadays also from abroad.

At present, donors amount to about 900 units.

In this generous competition to donate testimonies regarding the three-century old history of the Arm, next to high sounding names we see those of unknown Cavalrymen who send perhaps only a photograph, faded maybe, together with moving words proving their deep affection for the Arm and the fact that they feel honoured for having worn the loved colours. In brief, though last to be established, it is not the least important among the Arm Museums, indeed the rarity and preciousness of the things it contains make it one of the most interesting museums of its kind in Europe. The variety of

the antiques and the unique and elegant way they are exhibited, capture the visitors' attention. Recently, the members of the Saumur "Cadre Noir" stated: "We feel as if we were in the home of a great family, among memories of our own forefathers, rather than inside a Museum". In fact, it seems as if the antiques exhibited let off a deep sense of humanity which speaks to the eye, the mind and, most of all, the heart of the lady visitors too.

This is because Cavalry is multifarious. Thus, next to the military part — many testimonies of heroic Cavalrymen, — which is pre-eminent as needs be, there is the sporting aspect — cups and trophies won in competitions throughout the world —, the sentimental aspect — hooves and shoes of famous horses or those died in battle, testimonies of the Cavalryman's attachment to his horse — besides the mundane and romantic aspect represented by souvenirs which Cavalry units gave and still give to the brides of their Officers on their wedding day.

I must here mention two moving and meaningful writs: the letter of an elderly Tuscan Cavalryman and the words of a mother; the former wrote: "Until now I have devoutly preserved a corporal jacket, the busby and the cap I used back in 1907. I am now almost eighty and as I have no heirs I am sure that at my death these would end up at a peddler's and the mere thought is a great sorrow for me. If these things are of any interest to the Museum, I would be happy to send them as a gift".

The latter, mother of Captain Silvano Abba, Gold Medal who died at Isbuschenskij (Russia) and who took part in the Berlin Olympic Games of 1936, wrote: "I often feel death is just behind my shoulder and for nothing on earth would I want what remains of my son, which I have preserved religiously, to

Left.

The Museum's heraldic crest and some colonial pennons.



fall in the hands of strangers". There are many other episodes denoting the generous sentiments binding Cavalrymen to their Arm.

At present the area of the exhibition occupied by the Museum develops over three storeys and concerns about six thousand square meters. Antiques are displayed, mainly in chronological order, in several sections which gather testimonies from olden days to our present days.

On the ground floor, in the **cross-vault hall** which rightly deserves to be called the "Hall of Glory" there are the plaques devoted to the Officers who died for the Motherland when cadets of the Cavalry School.

Their names are divided by Regiment and next to each of them there is the fac-simile of the rewards for military valour.

Above there is a block-letter inscription: **"TO THE CAVALRYMEN OF ITALY - HEROICALLY FALLEN - IN THE IMPETUS AND IN THE ATTACK - SECULAR GLORY OF THE**

ARM - OR DISMOUNTED FROM THE SADDLE - TO WAGE WAR WITH ALL THE ARMS - ON THE GROUND AND IN THE SKY - FACING DEATH WITH BRAVERY - IN A SACRED OFFER TO THE MOTHERLAND - THIS SCHOOL - THEIR FIRST SCHOOL OF BRAVERY - PROUDLY CONSECRATES".

On the background of the cross there is the little monument by Canonica devoted to the "Cavalrymen of Italy"; on the right, symbolically guarding the evocative Sanctuary dedicated to the heroes decorated by a Gold Medal for military valour, a harnessed horse in bronze on the base of which there is the following epigraph: **"TO THE GENEROUS AND FAITHFUL COMRADES IN ARMS FALLEN FOR THE MOTHERLAND"**.

From the ground floor we go to the first floor up a severe Luserna stone staircase; at the top of the first flight there is a plaque in memory of Caprilli. It is the work of the sculptor Bistolfi who portrayed the virile

A "Nizza" Dragoon in WWI uniform.

traits of the great Maestro against a relief background, above the inscription: **"TO CAPTAIN FEDERICO CAPRILLI HIGHLY DISTINGUISHED MAESTRO OF RIDING WHO TAUGHT HERE FROM 14th MARCH 1904 TO 6th DECEMBER 1907"**.

In the first floor rooms which preserve the testimonies dated from the end of 1600 to 1939, we may follow the most beautiful deeds of Cavalrymen through testimonies of value and glory, through an interesting collection of uniforms of various ages and through the history of glorious deeds illustrated with documents, antiques, and iconographic representations.

On the right, as you enter there is a section regarding **foreign Cavalries**, in homage to the international spirit which has always distinguished Cavalry; indeed, in this section the 141 Officers of thirty three nations who came to Pinerolo



The Hall of Foreign Cavalries.

to learn the Natural Riding Method are ideally remembered.

In the adjoining **"Hall of Weapons"** is a particularly interesting collection of sidearms dating back to the end of the 16th Century and the beginning of the 17th, formerly belonging to the Cacherano di Bricherasio family. It is a panoply of lances and spears which flanks the two bigger show windows in which are displayed helmets, morions, armours, sabres and swords, spurs and two armours on mannikins, one of which called "black", painted in this colour, and the other "white", plain and more valuable. It is an "ammunition" armour from Brescia with the name of the municipality of origin (Quinzanel) and the emblem of the Venetian Republic slightly modified: the lion, that is, is depicted in anger (tail up) and its paw is on a closed Gospel so that the inscription "Pax tibi Marce evangelista meus", which

is normally read on the open pages, will not contrast with the symbols and state of war.

On the sides of the show window containing an artistic Misericordia of the 17th Century and Tibetan silver harnesses damascened in gold of the XVIIIth century, there are two show-cases: in the one on the left of the visitor there is a set of Cavalry muskets going from the last century Vetterlj to the 1891 model and the subsequent modified versions. In the other show-case there are Italian and foreign weapons: among the former the '91 musket taken from the saddle of second lieutenant Azzi, Gold Medal for military valour, another musket of the same kind, but without the bayonet, decorated by the Arabs in silver plate and a Mauser-Mannlicher rifle, made in Belgium, which had been distributed to the Imperial Guard of Negus Haile Selassie.

In the **corridor-like veranda** there is a embalmed sorrel horse harnessed for war on which there is a mannikin in

the uniform of the First World War; next to it, the bed on which Colonel Morelli di Popolo lay, after having been mortally wounded in one of the many charges led by the Monferrato Light Cavalry Regiment on June 24, 1859 at Montebello; along the walls there are Cavalry sabres, sashes, pictures and photographs regarding the School and show-cases with silver epaulettes and sabres of honour.

In the show-case in front of the entrance door there is the red shirt belonging to the young "Monferrato Light Cavalryman" Felice Bisleri, who enlisted with Garibaldi when he was only fifteen and at Bezzecca deserved a Silver Medal for military valour; there is also the sober uniform of the "Guide Garibaldine" and in front, slightly on the left, a show-case containing the horse-grooming equipment.

In the rooms in front of the entrance, the riding activity carried out before, during and after Caprilli is commemorated



and, along the walls, in a special case, we see a Nepalese XVIII century parchment hippology treatise.

Here one can also see the photographs of military Cavalrymen in individual and collective training activity, over obstacles now belonging to legend such as the Castle of Mombrone, the slipway of Baldissero, the race-course of Baudenasca and so forth to the difficult obstacles of Tor di Quinto.

Instructors, all the Commanders of the School and numerous Cavalrymen who made the "Caprilli" method famous throughout the world giving proof of their ability and athletic spirit, are here remembered together with the great Maestro.

The substantial difference between the old academic method and the new natural method is clearly seen in two sets of large photographs put together on purpose in a single show-case: in the first set one can see the riders inclined backwards and visibly disturbing the horse jumping rigidly and obviously in pain; in the second set the rider is in perfect sympathy with the horse, his bust inclined forward leaving the horse in its natural balance

without hindering its spontaneous postures.

In this section one can also see the things belonging to Captain Caprilli, such as the handles of the wooden case containing the ceramic urn with the great Maestro's ashes, uniforms, and a portrait of the founder of FIAT, Senator Giovanni Agnelli, former regular officer in "Savoia Cavalleria".

After this, the visitor's attention is drawn once more by the horse, its shoeing, its harness and in the **farriery**, the place of honour is occupied by an Irish horse called Cromwell, once ridden by Caprilli; on a cushion are the shoes of the mythical "Nasello Italiano". Special mention must be made of a scarf representing a true and proper treatise of hippology and training of both horse and Cavalryman. It was given to Cavalry soldiers together with the personal outfit.

From the farriery, through a large closed veranda with pictures and prints of very good artistry, one reaches the art gallery containing a few masterpieces such as a triptych by Cenni, picturing the liberation of Trento; pictures by Cugia, Tanzi, Mazza, Treves, Borgna, Gonzaga, Eco, Scarampi, Quaglino, Chicco;

other pictures are exhibited in other halls and galleries of the Museum.

On the left of the gallery, through a big archway, we reach what is often described as a "Museum in the Museum". On the central wall, above a chest engraved with the coat of arms of the former owner, is the large picture by the Risorgimento painter Sebastiano de Albertis titled "Bezzecca".

There are also four bronze groups among which an original work by Troubetzkoy, one by Campaiola and a group of Risorgimental subject placed on a beautiful chest above which hangs a precious ivory crucifix.

Three show-cases containing uniforms, saddlery items, war souvenirs and several decorations complete the room. On the walls, precious engravings of German tournaments and prints of the French Cavalry.

We now enter the hall of the old Officers' Club of the School, called the "Party Room", divided by two arches with a big two-window case at the centre. In the wall-window there are the cups won by the Official Italian Military Team. Here seven windows display a collection among the most interesting in the Museum. The

Left.
The Hall of the Standards.

Right, from top.
The Carriage Gallery;
The Exhibition of Armoured Vehicles.

main wall is occupied by a window containing a non-regulation jacket of the "brigandage" period as well as the first uniform and several souvenirs of the Piacenza Hussars, the kepys for Lancers and Light Cavalrymen and the sash, called "imperial model" of a yellow-gold material speckled with blue prescribed by the Sardinian army from 1789 to 1832 when the blue sash was adopted for the Officers; on the right there are cups and souvenirs of the School; in the front, in three wall-windows, there is a small statue of an artistic Saint George in ivory, an Indian work donated by Pope Paul VI, a trophy representing an officer of the Austrian Regiment "Prinz Eugen", gift of Emperor Franz Joseph and lastly a unique Capodimonte piece titled "Cavaliere Arabo".

The visit ends with another "Piemonte Reale" uniform and with the light blue uniform of the "Guide" with the first busby and the design of that particular headgear called *Calpak* and never adopted, of 1821 and 1859 respectively.

Special mention must also be made of the thirty statuettes of officers wearing the typical uniform of the beginning of the century, the parade helmets of the Generals of the end of the XIX century and the complete collection, from 1822 to 1940, of the helmets used in the first four Cavalry Regiments as well as the uniform of the Bourbon Cavalry of which there are no other models.

Five table-windows complete the room. These contain valuable decorations and souvenirs such as 12 bronzes, 30 pictures precisely reproducing the coat of arms of the Regiments of the Italian Cavalry as well as etchings and watercolours by Stanislao Grimaldi.



The table-window with the mundane-romantic souvenirs is particularly important. On it is a small bronze considered the symbol of the bond between the Cavalryman and his Dame.

From the "Trophy Hall" we go to the "**Hall of the Standards**", containing authentic war banners which led Old Piedmont and waved in the campaigns of the National Risorgimento and over the sun-bleached lands of Africa. The hall is dominated by a big window in which thirteen war Banners of the 1860 type are displayed. The flags, worn and

tattered due to age and the vicissitudes of war, rouse the visitor's deepest emotions.

At the centre of the hall in a special show-case, there is a rare Standard of the "Piemonte Reale Cavalleria" Regiment, a splendid embroidery in the baroque style of the early 18th Century, donated by Umberto II. A wrought-iron wreath of laurel and oak leaves holds two streamers and two cornets (Regimental and Regular Standard), respectively of H.M. Light Cavalrymen and Piedmont Dragoons, of the Restoration period. In this same hall we



Left.
E. Cugia: "Cavalry School".

Right.
Baretta: "St. George".

can see the sabre that Colonel Strada was holding when he charged the Austrians at Villafranca at the head of the "Alessandria" Light Cavalrymen.

On the right hand there is a show-case with a rare eighteenth century uniform with armor designed for a child. It is a precious testimony of the uniforms of 1752. It was worn in 1774 by the young Count Alessandro di Vallesa, a second lieutenant when he was little over nine years old; behind the uniform, a Piedmontese flag model 1832, with a "white cross on a red background"; next to this are the leather helmets adopted by Carlo Felice in 1814; below there is a drum taken from the French at the Assietta in 1747 with the gold Fleur-de-lis on a blue background and the name of the Unit "Regiment de la F  re".

Slightly to the left is the Chapel devoted to Saint George, Heavenly Patron of Cavalry.

At the sides of the entrance there are two inscriptions in rich gilded frames above which is the "Pegasus" of the old Cavalry School.

The first says: "TO CAVALRYMEN OF ALL TIMES AND NATIONS FALLEN FOR THE MOTHERLAND", thus dedicating the Chapel to those brave men; the second reminds us of article 52 of the Italian Constitution establishing a right-duty of the citizen: "THE

DEFENCE OF THE MOTHERLAND IS A SACRED DUTY OF THE CITIZEN".

In this sacred place it is easy to think of all those who died in war, the unknown heroes and the majority known to God alone, ideal army of honourable men, example of greatness and reproach for all human cowardice and meanness.

After this short meditation, the visitor can admire the altar-piece picturing a modern-style Saint George by the painter Baretta and the beautiful Via Crucis, masterpiece of the mosaic art of Montepulciano. The altar-piece on a gold background superbly represents the strength and generosity of the Cavalryman. The Saint, symbol of *Virtus*, rides the horse rearing before the monster which is attacking it. The Saint is pictured in the effort of killing the dragon with his lance.

At the sides of the baroque altar there are two sculptured wooden windows containing the relic *ex ossibus* of Saint George closed in an embossed silver plated copper shrine of the seventeenth century, mitres and ancient sacred vestments formerly belonging to the first Archbishop of the Armed Forces Monsignor Angelo Bartolomasi and to his successor, H.E. the Archbishop Carlo Alberto Ferrero di Cavallerleone. The mystic atmosphere is completed

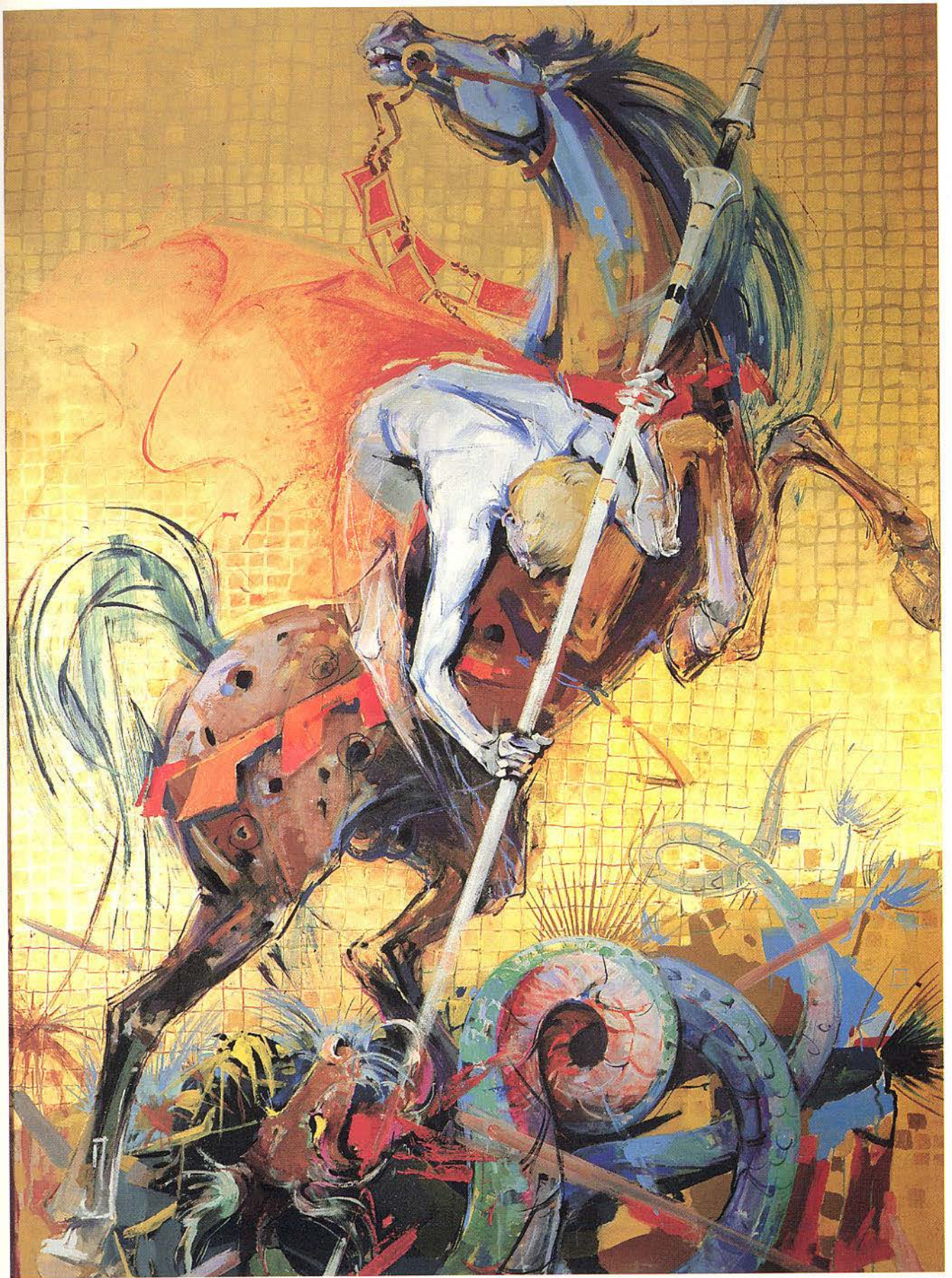
by two big stained glass Cathedral windows of modern make depicting the two salient moments of the investiture of the Medieval Cavalryman: the blessing of the palm and the decoration of the spurs.

The visit to the Sacramentum Chapel ends in front of a large panel reproducing the famous picture by Porcheddu "The Unknown Cavalryman" inspired by the question: "WHO WAS THAT UNKNOWN CAVALRYMAN?" and by the answer: "IT WAS THE UNKNOWN AND GLORIOUS REPRESENTATION OF THE HUMANLY UNSURMOUNTABLE LIMIT OF THE ACTION OF AN ARM", words pronounced by Marshal Giardino and suggested by far memories of the tragic and heroic vision before his eyes while inspecting the lines near Gorizia.

Continuing the visit from Saint George's Chapel one reaches a small hall containing the original Flag of the "Casale" Regiment (1814) and a canvas representing an Officer of the Bodyguards of the King of Sardinia. A series of four halls in succession gathers important and interesting findings.

In the first hall one finds the tight-fitting uniforms of the end of the 19th Century, the Dervish uniform (white tunic decorated with coloured patches, seventeenth century helmet and "barley grained" camail); a Banner of the Madhi, captured during the battle of Cassala, in 1894, and also the saddle of one of the chiefs, a booty of war.

The next room contains souvenirs of 1915-1918. There are interesting show-cases with the Gold Medals of Principe Ruffo di Calabria, together with those of Baracca and D'Annunzio, mementos of the "Paradiso" charge, of the last Cavalryman to die in the First



*Helmet of the first four regiments
(1920-1943).*



*Busby for Lancers and Light Cavalry.
(1920-1943).*



World War and of the Liberation of Trieste.

Here one can also see the messages launched from planes and those sent by pigeon by the first patrol to enter Vittorio Veneto, a big Hungarian bombard, booty of war, compressed-air a grenade launcher and a great amount of documents.

We now reach the last two halls of the first floor: one hall is dedicated to the glorious battle of **Pozzuolo del Friuli** where on October 30, 1917 the Italian Cavalry sacrificed itself to give a halt to the Austro-Hungarians who, after Caporetto, were crowding in the plain of Friuli; the other hall preserves relics, paintings of **the 1920-1930 period**.

On the second floor we see the sections dedicated to the vicissitudes of the last war on the various fronts, the war of liberation and the armoured Cavalry from its reestablishment (1946) to our own days, six halls in all.

The souvenirs connected to the Ruspoli brothers are quite outstanding: Gold Medals for

Military Valour at El Alamein and to those who, for that spirit of adventure which distinguishes our Arm, became Parachutists and wrote pages of glory together with the young men of the "Folgore". Here one can see things belonging to Cadorna, Andrea Paglieri, Gold Medal for Military Valour, executed by the Germans at Fossano, Colonels Bettoni, Pagliano and Ajmone-Cat who commanded the last charges of the Italian Cavalry such as the ones at Jagodnij, Isbusenskij and Poloj; lastly, the souvenirs of the Olympic champion Abba, Gold Medal at Isbusenskij.

A sector is dedicated to the **Russian Campaign** where the "Lancieri di Novara" and the Cavalrymen of "Savoia" distinguished themselves; among the different souvenirs one can admire the only remaining uniform of the Cossacks enlisted in the "Savoia" Regiment.

The last two halls of the second floor commemorate the operations on **African** soil. The thirty-three pennons of the Colonial Battalions and the

brightly-coloured "etaga" and "farmule" as well as the choreographic "burnus" are quite outstanding; here one finds the uniforms, the launching and edge weapons, a Coptic tapestry depicting Saint George killing the dragon, period prints, saddles (rahla) and pack-saddles for dromedaries, camel harness and the first very interesting colonial helmets as well as those used in the operation sung by everyone with the words "Tripoli, beautiful soil of love...". In some show-cases there are sidearms and prototypes of uniforms which were never adopted due to the vicissitudes of war; at the centre of the hall there is a Savari on an embalmed horse.

We now go down the staircase decorated with brickwork friezes and tapestry and reach the two galleries facing the hall: the first is a testimony of the period dedicated to the **coach and carriage**. Here one can admire the flat baggage cart and the gunpowder cart used until the early years of this century, as well as gigs, horse-breakers and elegant cabs. The second hall contains **armoured and wheeled vehicles**. This section is always increasing its exhibits, for it gathers all that regards the present of the Arm: from the Fast Tank model 1935 on which Gold Medal Second Lieutenant Luigi Fuccia was killed (the holes of the antitank bullets which hit the hero on the road to France on March 11, 1937 may still be seen), to the wreck of the armoured car SPA/41, from the White to the M24 Tank up to the more modern vehicles and lastly the model 1942 Overland Jeep used by Paolo Caccia Dominioni to recover the Fallen of El Alamein. Before all this it is difficult not to remember the numerous Armoured Units: "Nizza", "Novara", "Monferrato", "Lodi", "Montebello", "Guida", "Alessandria", "Firenze", "Lucca" and "Vittorio Emanuele" which fought superbly with the new

A bronze representing a medieval cavalryman on a 1935 Fast Tank. It is an allegory of the modern transformation of Cavalry.

vehicles and the old, everlasting bravery.

Today, just as yesterday, though units and vehicles have changed, the *miles* maintains unchanged the spirit, the style, the sentiments and the secular traditions which distinguish him and which make him a *Cavalryman*.

The Museum is not only a place where trophies are gathered and exhibited, but a cultural centre, modern and throbbing with life, which should be of help to all those who wish to deepen their knowledge of Cavalry.

A place where one may study the way Cavalry is employed in war and in peace, the deeds of its best men, the uniforms, armament, traditions and vehicles used throughout the ages.

This is why the following was established:

- historic archives
- cinema and photo archives
- a library divided into two branches: the military one with about ten thousand volumes and the branch dedicated to the horse with, among others, treatises of the 16th, 17th and 18th Century, of great bibliographic value. Among the latter, special mention must be made of the ones by Claudio Corte di Pavia, Grisone, Caracciolo, Fiaschi and Baldovino de' Monte Simoncelli.

It must also be underlined that in all the rooms and halls there are several bronzes of very good make by famous artists such as Canonica, Calandra, Pfeffer, Malvani, A. Rossi, Stanislao Grimaldi, Sarocchi, Crespi, Bexner, Malissard, Malavolti, De Rulle, Norfini, Campaiola, Troubetzkoy, Negri, Lancère, Marocchetti, Baldoni, Fremiét, Cuoco, Wick and Vedani.

Those, and they are many already, who visited the Museum, all agree on the same

comment: "We could not imagine".

All those who are still jealously keeping testimonies of glory and tradition should think of this: these testimonies should not remain "lights under the bushel", but become the heritage of everyone so that all may see, know and understand.

He who has never seen the joy shine in the eyes often veiled with tears of the donators when coming back to the Museum and suddenly seeing the things belonging to their beloved relatives in orderly display for the admiration of visitors, cannot understand how good it is to give with the aim of keeping alive and often giving a new life to a past which must not be ignored.

This is why Cavalrymen and their admirers must gather around this Institute and, also by sacrificing their time and means, engage in improving and enriching what has till now been only a dream: the establishment of a section dedicated to the Cavalry of the

Pre-Unitarian States.

We thus conclude this short ideal visit; on leaving the Museum, the eye will again be caught by the basement of the bronze monument in memory of the Cavalryman, where one of the mottoes beautifully summarizing the spirit of Cavalry stands out in golden letters: "*GENEROUS WITH EVERYONE, FAITHFUL TO ITSELF*".

Brig. Gen. (ret.) Carlo De Virgilio



Paolo Eaccia Rommioni



Esclusività FAA di Trento e ANA di
Lecco nel Centenario degli Alpini

IL TESTAMENTO

*Il Comandante la Compagnia
ci manda a dire ai suoi soldati
che l'è ferito e sta per morire
e che lo vengano a ritrovar.
I suoi soldati gli manda a dire
che no ga scarpe per traversa.*

*"O con le scarpe o senza scarpe
i miei Alpini li voglio qua."
Ecco fu stato alla mattina
i suoi soldati era riva:
"Cosa comandelo Signor Capitano
che i suoi Alpini eccoli qua."*

CANTA ALPINA DI MICHELE ANTONIO MARCHESE DI SALUZZO



copie scelte

A MAN

by Giulio Bedeschi



DEL CAPITANO

"E io comando che il mio cuore
in cinque pezzi dovete tagliar.
Il primo pezzo al Re d' Italia
che si ricordi dei suoi soldati.
Secondo pezzo alla Compagnia
che si ricordi del suo Capitano.

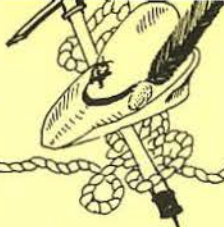
DVTO A.D. 1528 COMBATTENDO NELLO ASSEDIO DI AVERSA

Disegno di Giulio Bedeschi
dis. 1972

Terzo pezzo alla mamma mia
che si ricordi del suo figlio alpin.
Quarto pezzo alla mia bella
che sono stato il suo primo amor.
Quinto pezzo alle montagne
che le fiorisca di rose e di fiori."

a Carlo Torrelli

Giulio Bedeschi
1981



Paolo Caccia Dominioni is certainly not a child of our time. Without arrogance, but by sovereign freedom of spirit, he rises above immediate circumstances. His life could be placed against the background of every age and the personage would stand out strongly nonetheless. Unique and intangible, always remaining fully himself, he has traversed the history of our century and immersed himself in it with a total flair and humanity, ever present in the heart of the events, ever ready to come running and to consume himself wherever those events have been most incandescent; to be sure, out of an intimate, bold gusto in measuring himself with things and deeds, using a virtually boundless interior yardstick known only to himself; but, above all, driven by his very nature to throw himself into the thick of things wherever his men were gasping in extreme risk and danger, and the handful of heroes drawn up around him represented, in their ardor, the best and most pure that might be offered in any occasion by the generation in which Paolo was living.

For Paolo was and is a man of many generations. Venerably old (indeed, ancient) but nourished by eternal spirit and fervors, settled in his hermitage, he is still a constant point of reference and attraction for anyone who seeks light and sparks of generous civilization in the grey shoddiness of the present time. And if one wants to seek some certitude on

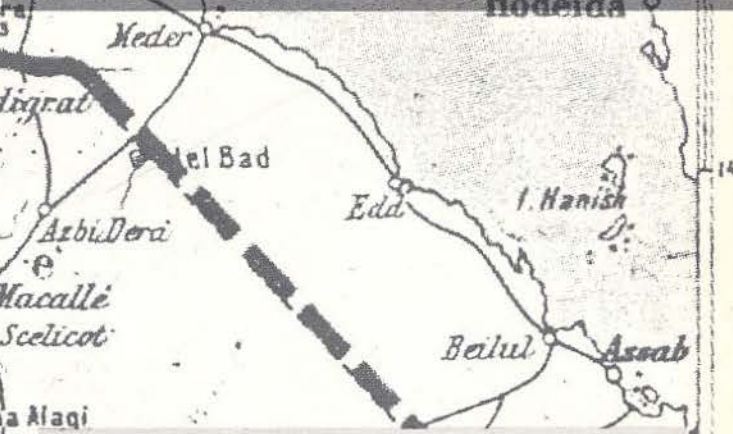
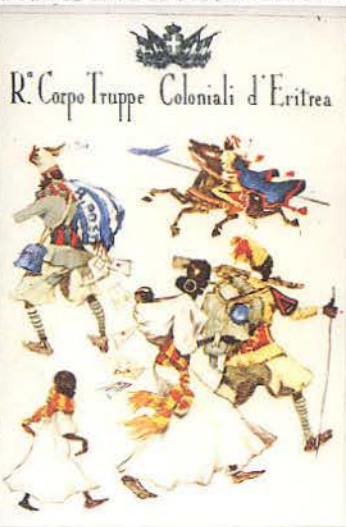
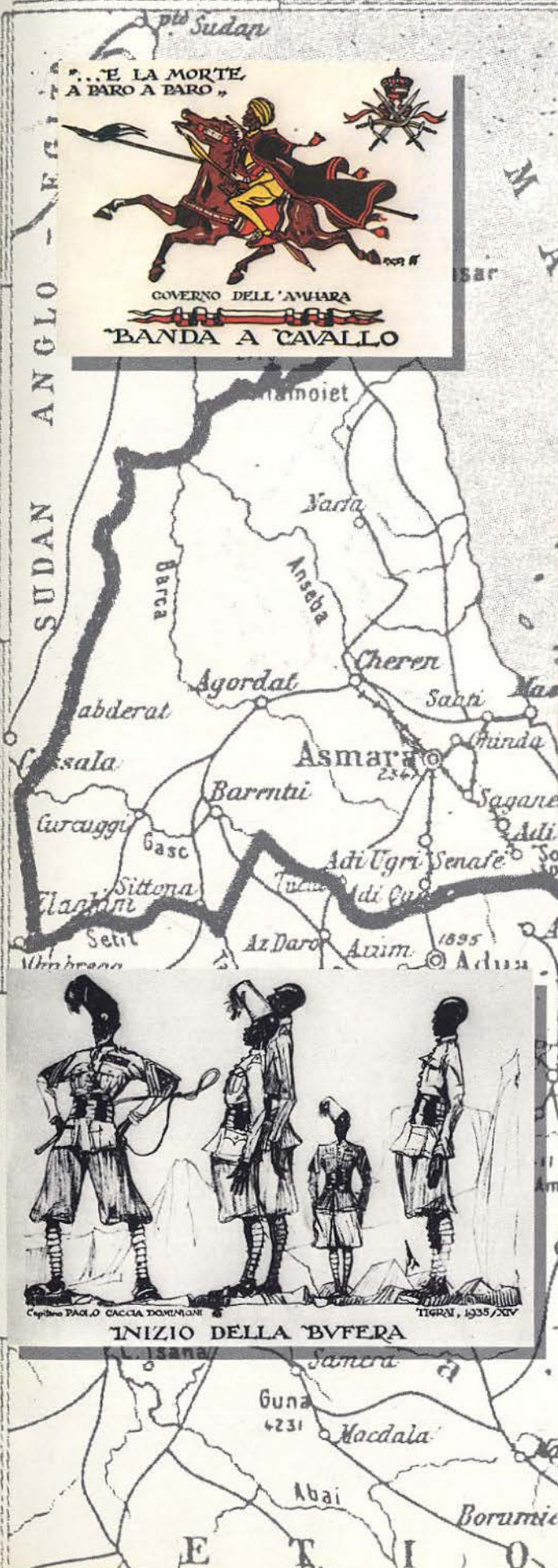
which to hang one's hopes for a better future, it is to him and to men like him, and to their exemplary lives, that one must turn. No one has better known or exercised, throughout the entire course of his life, the supreme art of giving of oneself with divine folly, prodigal of himself like a Saint Francis who gives away all and begins all over out of inexhaustible love; to the extent of isolating himself in his hermitage in the African desert for eleven years to gather the bones of eleven thousand men destroyed by war, and to align them, and to recognize them, and to arrange them, and to guard them, almost as if to bestow on those silent remains a superabundance of the love that the gelid, quarrelsome, hostile people swarming in our cities seem today to not understand or to wish to refuse.

Always generously open to men, ideas and feelings, without measure or calculation, ready to shift from the mystical spirituality of Saint Francis to the warlike impetus of a Saint George brandishing the sword, Paolo is the bearer of a peerless and irrepressible compendium of forces that pulsate, inborn, in his very blood, mixed together and originating down through the centuries, and even drawn from his exacting ancestors, that is, the Colleoni, the Farnese, the Doria. But Paolo makes his illustrious ancestry concrete and interprets it in a modern vein, with a fervor of actions and accomplishments that are

entirely extraordinary, and that have driven him to commit himself with a passion, to work as an engineer and architect on four continents; and at the same time to act to assert the integral Italian spirit in the fields of art and, equally, in those of battle, from the First World War to the Second in six periods of active duty, up to the supreme adventure of El Alamein, as commander of the legendary 31st Africa Sapper Battalion. And always, with an appearance of detachment and irony but with an unexpressed veil of tears, he has put on paper the essences of life that made the lives of his comrades, of his brothers in arms, beautiful and tragic. Paolo paints, draws, creates, etches, erects monuments, writes, determined and indomitable, free-spirited or aristocratic, however his spirit may dictate. Never does he cease attesting to the nobility and valor of those who lived at his side, caressing them lovingly with the pen or brush even when (as in these drawings) he depicts them in a free-and-easy vein, stripping away the myth, and highlighting the minimal components that reduce unquestioned greatness to the proportions of a good-natured, winning reality.

For this is Paolo Caccia Dominioni: an eternal compendium of heroic life, softened at each stroke by the vigilant care with which greatness is minimized in humility and dissolved in the anxious, ever-renewing secret that beats in his man's heart.

Giulio Bodetchi



INIZIO DELLA BVFERA

FINE DI UNA GIORNATA



**31° BATTAGLIONE GVASTATORI
D'AFRICA, POI DEL GENIO ALPINO**

L'ABATE UNA MEDAGLIA D'ARGENTO E UNA DI BRONZO fedele al nome antico, arriva primo a SORBA riconsegnando il suo soldo - Campioni in Jugoslavia, Marmarica, Sin-Bea, Alamein, Tunisia, Monte dei Caduti, ex Isonzo, Supeiori, promemori (1941-42), clero di Moritz, feriti nei tre conflitti 1941-42, 1943-44, benemerito da campi minati 1940-47.

La Missione con i Caduti del Deserto, Alamein, sin-Bea e Medaglia d'Oro, la Argentina, 176. Alamein, St. Cro-

o altre ricompense individuali al valore guerriero

Al T. Colonnello **Giuseppe Torcelli**
Comandante il 52°
Fanteria "Cacciatori
delle Alpi" da
P. Caccia Domini
già Comandante del →
1986



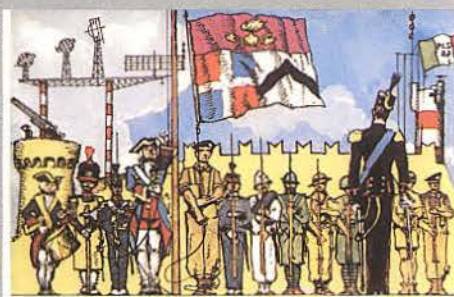
1942
1943



3°GVASTATORI·GENIO·VERBANO°

Ala Bandiera una Medaglia d'Argento e Tre di Bronzo al Valor Militare, una di Bronzo al Valore dell'Esercito

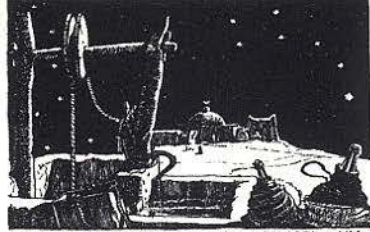
Flaurion



Per i Caduti del Deserto
del Cielo ~ del Mare ~

Beneditto, Signore, nel canto del Deserto e dell'On-
gli Italiani riuniti sopra la Quota lontana
E noi conosciamo, prima del supremo mortale apazio
tornamento insigne di altezza, sete, sozzura, fatica
Seppero vivere disperate di battaglia e talora, indifesi
Al facile insulto straniero, aquilone di libertà perduta
Perché condotti non da vanità o brama di ventura
Ma da obbedienza alla Patria, benedici, Signore,
Con tutti i Caduti d'Africa e del Mondo - Fratelli
Soldati d'ogni Bandiera, purificati nell'ultima fiammata





A VOI EROVATI PORTI VINA SOTTO CIELO SENZA TEMPESTA SU FIDA CON FOZZI GENESIO E SENZA FREDDONI



ADAMA DEL GENIO
1915-18
Finale 1918



3° BATTAGLIONE GENIO GVASTATORI "VERBANO"



Perugia 1860 - Libia 1911-13 - Isonzo, Alpi, Altipiani - Rave 1915-18 - Africa Orientale 1935-36

Marmarica, Almania, Sirte, Tobruk, Alamein, Ben, Tunisia, Appennini, S. Linea Gotica 1940-45



GENIO ALPINO

NOME DI NOME - ZAPPALONI ALPINO TRAMONTANO
NON SI ABBANDONARMI MAI E CHERO E IL PRINCIPALE
DAL - E PRINCIPALE SE IN PERICOLO LA STEPPA DEL CIELO
NOMI E IL PRINCIPALE PRINCIPALE E IL PRINCIPALE
UNA DI ORIENTE E IL PRINCIPALE E IL PRINCIPALE
NOMI E IL PRINCIPALE E IL PRINCIPALE



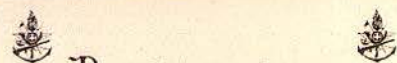
COMMISSARIATO GENERALE ONORARIE AI CADUTI IN GUERRA



Base Italiana Sacario Militare

VEDUTA DAL DESERTO

Mosche degli Ausari Libici, Corte d'Onore, Museo Storico



Per i Caduti del Deserto del Cielo

Quota 3 di Alamein
Ben-dici Signore nel canto del Deserto e dell'Onda
gli Italiani riuniti sopra la Quota levitana
E in considerazione prima del supremo mortale spaziano
E benedici insieme di Allah, arte, giustizia, Eterna
Sopra le vicende disperate di battaglia e talora, indicata
al facile insidio straniero, squallide di libertà perduta
Perché condotti non da viltà o bramosia di vittoria
ma da obbedienza alla Patria, benedici Signore
Con tutti i Caduti d'Africa e del Mondo - fratelli
Soldati d'ogni Pandemonio purificati nell'ultima fiammata



Sacario Militare Base Italiana

VEDUTA DAL MARE



3° BATTAGLIONE GENIO GVASTATORI "VERBANO" Accesto e distruggo



3° BATTAGLIONE GENIO GVASTATORI "VERBANO" SULLA BATTAGLIA E SULLA VITA DEI SOLDATI IN L. M.



3° BATTAGLIONE GENIO GVASTATORI "VERBANO"



QUI PASSERA IL 3° GVASTATORI GENIO IL 3° DE CORATO DELL'ARMA 1860 1954

GREAT EXHIBITIONS

"MAN ON TWO WHEELS" (Milan, Nov. 1987 - March 1988)



"The bicycle is a shoe, a skate, it is yourself, your foot which has become a wheel. The bicycle is ourselves winning space and time..."

This is how Alfredo Oriani praised the "steel horse" born as an elegant accessory, dear to snobs, eccentrics and artists.

The big exhibition, opened in Milan in the Ansaldo hangar on November 23, 1987 and closed in March, 1988, is a true and proper saga of the bicycle, a splendid review of the proto-history and history of the velocipede, a story in great themes which intertwine with our own very life: from Leonardo Da Vinci's imagination to the nineteenth century "Velocifero", from the bicycle used in war and during the Resistance in the cities, and as a means for evacuating the towns during bombings; from the bicycle of the legendary sporting events to the bicycle in art (immortalized in the works of Sironi, Boccioni, Magritte, Dali, Léger), in literature (mention must be made of the rhymes by Pascoli, Gozzano, Buzzati, Vergani and the above mentioned Oriani), in cinema (the famous "Bicycle thieves"), in songs and lastly in journalism.

It was the French who, in 1895, were the first to exploit the manegeableness of the velocipedes. A few years later, the Austro-Hungarian troops were also equipped with shining "Wafferrand".

In Italy, the official date of the establishment of the "Bersaglieri Ciclisti" is March 15, 1898. On this date, the first company of this authentic speciality was established at the Scuola Centrale di Tiro of Parma.

The true founder is the young lieutenant of the Bersaglieri, Luigi Camillo Natali, fond of cycling and convinced that the bicycle would greatly increase the tactical function and the speed of the Bersaglieri. He was also one of the first to join the **Italian Touring Club** in Milan which just in those years had been established in the wake of the success obtained by the bicycle, (which can still be seen in the coat of arms of the club).

Due to the understanding attention and enthusiasm of General Carlo Ferraris, Commandant of the Scuola Centrale di Tiro of Parma, lieutenant Natali was promoted Captain, and asked to form the first experimen-

tal company of cyclist Bersaglieri.

On September 1, 1899, a company of the second course held at the Parma School, consisting of 120 Bersaglieri, was employed in the great manoeuvres in Piedmont and surprised everyone for the operational speed achieved.

Thus, the first four cyclist companies, attached to the 3rd, 4th, 5th and 12th regiment, were officially established.

Among the best elements summoned to join this new speciality, we must mention Lieutenant Ugo Conti who later became commander of the 8th regiment in Vittorio Veneto; he was awarded the Military Order of Savoy and decorated with two silver medals.

It was again Natali who set down the basis for regulations and training programmes and, with his experience, improved the bicycle, whose frame could be folded into two and by loosening a few clamps and using appropriate shoulder straps the vehicle could quickly be put on one's shoulder.

Drill involved 100 Km a day at an average speed of 15 Km an hour, with a bicycle weighing 26 kilos (the one used by the machine-gunners reached 40 kilos!). However, Italian inventiveness and imagination was, once more, above all expectations, and soon a method of fitting a "Fiat Revelli 1914" machine gun was found.

Demonstrations organized with a multitude of volunteer cyclists later allowed the establishment of a true and proper "motorist cyclist volunteer corps" founded in 1904 and authorised in 1911 to wear the stars of the army units on its uniform.

Besides the historical velocipedes used in war by our Bersaglieri, the exhaustive anthological review exhibits to our admiration, curiosity and attention, and not without emotion, rudimental wooden vehicles, the count of Sivrac's "Celerifero", Mac Millan's velocipede, the 1870 bicycle of Michaux and the "eccentric vehicles" of the British sportsmen.

After a period of motoristic folly, this interesting exhibition clearly shows that the much despised and neglected "two wheels" has recovered ground because, basically, it tells of ourselves and our ancestors.

Gian Carlo Torcelli



1



2



5

1 — 1st cyclist Bersaglieri battalion
Companies of the 3rd, 5th, 6th and 9th
regiment
Bologna April 1, 1908

2 — Military School - Cyclist unit
Cadets and NCO Cadets



3 — Cadets and NCO Cadets of the Military School
Cyclist unit - 1902-1903 course
Company drill (side by side platoons)

5 — Postcard of the National Association of Veteran motorist cyclist volunteers (Milan, Via Bagutta 12)

7 — Postcard of the 9th Bersaglieri regiment Cyclist company

4 — Postcard (1904) of the 6th Bersaglieri regiment - cyclist unit

6 — Postcard of the 12th Bersaglieri regiment (21st, 23rd and 36th battalion)

8 — Postcard of the 11th Bersaglieri regiment Cyclist company

GREAT EXHIBITIONS



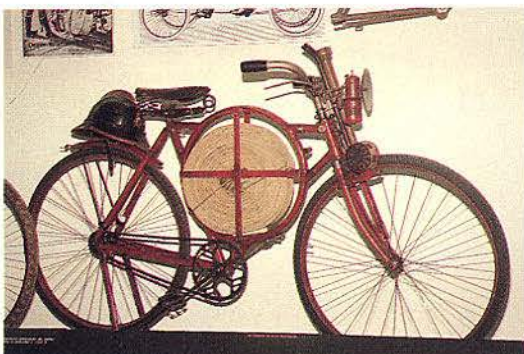
9

9 — 1895 - Folding bicycle adopted by the French Army at the end of the nineteenth century. Designed by Charles Morel and known as "Captain Gerard" (Banalotti collection)



10

10 — STEYR early '900
"Wafferand" type. Folding bicycle of the Austro-Hungarian Army (Genazzini-Rizzo collection)



11

11 — BSA 1905
Bicycle equipped with fire extinguisher for ready short-distance intervention distributed to the Fire Brigade. (Fermo-Galbiati collection)

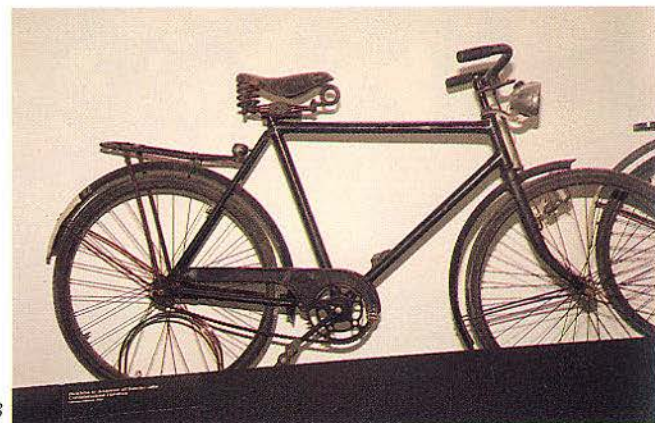


12

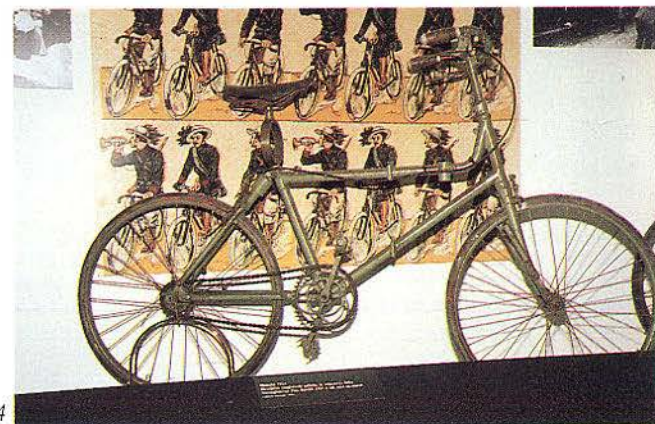
12 — PRINETTI E STUCCHI ca. 1910
Folding bicycle. It could carry a machine gun, and was fitted with a telescopic trestle and folding handle bar so that the bicycle could be used as a support for the weapon in firing position. (Genazzini-Rizzo collection)

13 — BICYCLE
In service with the Army of the German Confederation

14 — BIANCHI 1924
Folding bicycle used to transport the 1914 FIAT REVELLI machine-gun and accessories. (Genazzini-Rizzo collection)



13



14



15



17



16



18

15 — BIANCHI 1925 and following models
"Unified" model adopted by the Italian army; folding frame
with elastic suspensions
(Genazzini-Rizzo collection)

16 — O.A.R.E. 1930
Folding bicycle designed and made by the Officine
Automobilistiche of the Italian "Regio Esercito".
Note the suspensions and the standardization of all moving
parts and bolts.

17 — THOMPSON 1940
British military bicycle
(Genazzini-Rizzo collection)

18 — THE FORTIES
Bicycle folding in three parts made for the Italian
paratroopers during the second world war.
("Leonardo Da Vinci" Museum of Science and Technique)

19 — BSA 1944
Folding bicycle of the British paratroopers.
(Genazzini-Rizzo collection)

20 — "CYCLOTAXI"
War years: due to the shortage of petrol, legs have to work
(Fermo Galbiati collection)



19



20



COLLECTOR'S CARDS

The history of collecting, a hobby which is widespread through all social classes, is lost in the mists of time. The love for "collections" dates back to the birth of mankind and goes together with man's instinct for preservation and the gathering of foodstuff first and then of even unnecessary objects.

In order to establish a historical reference, the cave man used to hide the booty taken from the caves of others. While time passed and social communities became more advanced, war booty enriched public and religious estates as well as the homes and collections of a few privileged persons.

Among the first true collectors we may mention Tutankhamen, the Pharaoh who asked to be buried with many jewels and, more important, with his vast collection of walking sticks and canes. The Amenhotep II collection of blue enamels may rightly be defined "pharaonic"! Both the Greeks and the Romans were aligned with the Pharaohs, due to their territorial conquests. The homes of the higher classes of that period overflowed with collections of precious objects, not so much for a precise cultural interest and aesthetic sense, but for sheer ambition.

However there obviously were exceptions: Silla and Lucullus, who had great culture and competence, gathered a conspicuous number of books; Caesar was a keen collector of cameos; Verre collected paintings and jewels.

The obscurantism of the Middle Ages enfeebled the collecting aptitude, while the age of the Crusades greatly favoured collections regarding war and navy, especially in Venice.

POSTCARDS

Silvano Bonetti is a collector of military postcards subdivided as follows:

- regimental;
- commemorating the launching of warships;
- air force;
- colonial units;
- voluntary militia.

The collector has taken part in some exhibitions (Milan, Bologna, Macerata, Attimis) and held lectures on "Postcards as historic documents".



In Florence, all members of the Medici family started fabulous collections of all kinds and were soon imitated by the other princely courts of the time.

The collections, both sacred and profane, of the Popes of the Renaissance were also very important. Nicholas V, Pius II (Enea Silvio Piccolomini), Paul II (to whom we owe Pienza, a real architectural jewel), Leo X, son of Lorenzo il Magnifico, Clement VII, are only some of the most famous names.

Among women collectors we must mention Beatrice

Notes on collector Silvano Bonetti

D'Este, Caterina Sforza, Lucrezia Borgia and, above all, Caterina de' Medici who ran into debt to satisfy her unbridled passion for collecting; and later, in the eighteenth century, Madame de Pompadour, Louis XV's favourite.

In 1600 Richelieu, Mazarin and the Roi-Soleil put together huge collections and placed them in splendid palaces.

In the eighteenth century Frederick II of Prussia collected a great number of snuffboxes. Catherine II of Russia had the



HEADGEAR

The Periz family of Vicenza has given officers to the Alpine Troops for three generations and is tightly bound to the traditions of the Speciality. We present the collections of military objects, related to the first and second World Wars, assembled by the father, Vincenzo Periz, and by the two sons, Luigi and Giovanni.

The collection concerns equipment of the Italian, Austrian and German armies and contains:

- 100 headgear pieces;
- 60 uniforms;
- gas masks;
- accoutrements;
- sidearms;
- fire arms;
- plaques and medals;
- regimental postcards

Notes on collector Vincenzo Periz

Hermitage built to contain exceptional collections, Napoleon ransacked immense collections throughout Europe more for the sake of power and exhibitionism than for a spiritual and cultural need.

Nowadays, the numberless collections existing have turned from objects of remarkable value to more modest ones which, however, show that collectors are interested in the most varied objects as long as they satisfy their cultural, spiritual, psychological and

aesthetic needs.

Actually, the true collector loves to surround himself with the things he likes, go object-hunting, satisfy his curiosity of finding out where the object comes from, its historical and geographical context; lastly, with the intimate satisfaction of having found the missing piece, catalogue and arrange it with care and accuracy.

Collecting means cultural interest, sensitivity, good taste, patience and constancy of purpose.

As already mentioned, the objects collected are

numberless. Of course, we will concern ourselves with militaria, i.e. collections which somehow regard the Armed Forces and, particularly, the following sectors:

- insignia;
- medals;
- crests;
- collar badges;
- uniforms;
- sidearms;
- fire arms;
- headgear and helmets;
- armours;
- stamps, cancellations;
- letter-sealers;
- regimental calendars;
- military postcards;
- miniature soldiers;
- decorations and orders of

knighthood;

- paintings, sculptures, objects, photographs of a military nature;

- books on uniforms, history, etc., commissions, discharge papers;

- match boxes, playing cards and coasters decorated with military subjects;

- historic and military surveys and studies.

With a view to the above, "Rivista Militare" publishes the cards for "collectors of militaria".

These cards, contained in folders which are periodically kept up-to-date with new collector cards, contain the following:

- a brief introduction to the collection;
- a photograph, biographical information and the collector's address;
- some coloured photographs of the most interesting and important pieces of the collection.

The folders, widely circulated among collectors, allow to take census of collectors of militaria (who are far more numerous than generally believed) who may get to know each other and exchange opinions, information and material.

OD/82 HAND GRENADE



The OD/82 hand grenade is a weapon of controlled effect and of delay type (4 ± 0.5 sec.). It may be employed both in offensive and defensive mode without adding or removing any of its components. The materials and technology employed in the manufacture of this grenade allow a constant range of efficacy and a safe distance in all operative conditions. The OD/82 hand grenade

is the only hand grenade approved for service with the Italian Army. Weight of the hand grenade is 286 ± 5 grams, maximum length is 83 mm., maximum diameter is 59 mm. Total weight of steel fragments is 70 grams. Probable efficacy of fragments at 5 m. results to be 85%, safety radius is 20 m. Weight of main charge is 112 gm. of compositions B.



LA PRECISA SpA
TEANO-ITALY

40 YEARS EXPERIENCE



SMA is a flexible company founded in 1943. Since 1948 has been active in design, development and production of electronic equipment for defence. Main activities are radars for ground, shipborne, airborne, missile applications and related display systems. The company broad spectrum permits the supply of turnkey systems tailored to the end-user needs.



SEGNALAMENTO MARITTIMO ED AEREO

SMA's basic product lines and business sectors include: High definition and discrimination coastal radar control stations, both for maritime traffic management systems and military application (anti intrusion, coastal defence, mine splash detection); Shipborne navigation /search radars devoted to low, very-low air coverage (anti sea skimmers); Missile active homing heads, provided with a variety of ECM devices, for SSM (OTOMAT MK2) and ASM (Marte MK2) applications; 360° coverage search and navigation airborne radars for helicopters and maritime

patrol aircraft; Standard Pod contained search radars for fixed wing aircraft to be employed in conjunction with ASM; Integrated search and tracking radars for A/A defence to be employed both on specialized trucks (OTOMATIC) or on semi-mobile/fix station for point defence; applied research aimed toward millimetric waves (up to 100 GHz) in active and passive sensors (radiometer); Duct analysis and electromagnetic propagation forecast.

P.O. BOX 200-FIRENZE(ITALIA)-TELEPHONE:055/27501-TELEX:SMARAD 570622-CABLE:SMA FIRENZE



Mino Milani: "Romanzo Militare"
(A Military Novel), Camunia
Publishing House, Milan, 1987,
26,000 Lire.

Mino Milani, who originally comes from Pavia, has a varied literary activity: historic (Garibaldi and the history of Pavia), as a writer of novels (Love stories and Selina), his is also that melancholy cow-boy, Tommy River, various film settings and, moreover, the column "La Realtà Romanesca" on the well-known weekly magazine "La Domenica del Corriere".

Milani's latest work "Romanzo militare" is a historic novel which arouses emotions and carries one away with its moving and pressing dialogues and with its detailed knowledge of history rarely found in novel writers.

The structure of the work reminds us of Stendhal and we sometimes breathe the aura of Buzzatti in his "The Desert of the Tartars".

Set in 1869, events take place between Cosenza, and the Sila; Caprano is the tiny centre where military headquarters have to conduct a "police" operation against the last, bloody blows of the brigandage in southern Italy and especially in Calabria.

General Sacchi, 48 years old and from Pavia, is appointed commander of the military garrison and sent to capture the chief brigand Palma and his gang. General Sacchi really existed and was a heroic follower of Garibaldi (in the biography of Garibaldi he is mentioned at least three times: during the evacuation and continuation of the combat in Rome, after the battle with Oudinot's men, in 1859, when, though a supporter of Mazzini, together with Medici and Bixio he puts aside his republican beliefs and follows Garibaldi in the hostilities and lastly when together with Crispi, Bixio, Medici, Missori,

Calvino and others he attends the wedding of Canzio and Teresita, Garibaldi's daughter, in Caprera). Back to the book, however, general Sacchi reaches Caprano for an action of repression which lasts two months and here, around this character and a small number of officers under his command, is where the book is set.

The character of general Sacchi stands out above all the others for the complexity of his disposition, for his tormenting doubts, his rending interior conflicts, his benevolent social analysis of brigandage (which makes him consider Palma an objective enemy more than a bandit) and for his recollections of his South American love Encarnación, the dream of the good lemur.

The general and his moral conflicts mirror the greater social conflicts between the South, doubtful of its identity, (after the establishment of the Kingdom of Italy with Florence as capital) and the North still unable to reach out to all the regions of Italy. In the novel, in fact, certain characters of northern origin criticise and give harsh judgements on the people of the South and — probably at times when the fight against brigandage seems to give no results — express their wish to detach the regions of the South from unified Italy.

While scanning the human soul, the drama of a people militarily unified without considering the different ethnics, traditions, culture, political opinions, social and economical conditions, etc., emerges in its entirety: this, however, is what has to be paid for the unification of all peoples.

Today we look onto even more dramatic systems of people on the road towards unification.

The novel, besides being one of historic interpretation and enquiry, is made of adventures, temperamental conflicts and verisimilar garrison events. The passages regarding garrison life are most enjoyable and depict relations among officers, orders issued, scarcely hidden irritations, the grumbling of the troops and the methods used with them opposed by the stricter officers, the presence of certain people aiming only at obtaining career advancements, deceits and excellent behaviours in very precarious situations.

In this world marked by human sentiments, heroisms, atrocious revenges, cowardice, silence, the faces of the stiff colonel Ranza, the restless lieutenant Albertario and other characters of minor depth, but no least important, emerge in all their vividness.

Special mention must be made of the plastic movement, in the background of the events, of the Calabrian people, swarming with peasants, herdsmen, shepherds, impoverished aristocrats and notables which often frames and gives a strong colour to the events which take place in the garrison and its rough territory.

In the weaving of the novel three women make their brief appearance: Encarnación, general Sacchi's love who died of child-birth, unreal, yet present; Maddalena, Palma's mistress, dumb, wretched and sorrowful yet grateful for the understanding of

her sufferings; Stefania, lieutenant Albertario's lover, ambiguous and depressed, worried and tender.

We here wish to conclude, briefly quoting the words of the literary critic, Alfredo Barberis: "These are pages of scanty words, drenched with acrid tastes, dust, atrocities which Milani transforms in scenes of war taken not from Epinal's prints, but from "military" Fattori's dramatic palette.

With a final judgement in telegraphic style, Barberis qualifies "Romanzo militare" as a book which absolutely must be read.

Raffaele Pugliese

STUDI VILAFRANCHESI

LE STAMPE DEL RISORGIMENTO DEL MUSEO DI VILAFRANCA

Repertorio storico-artistico

Nazario Barone - Giuseppe Fagnolini - Paolo Salazar - Graziano Tavan



G. Fagnolini, G. Tavan (editors):
"Le Stampe del Risorgimento
del Museo di Villafranca" (The
Risorgimento Prints of the
Villafranca Museum).
Published by the Managing
Committee of the Library and
Cultural Activities of Villafranca
di Verona; 1986, 162 pages,
13,000 Lire.

The most famous "square", the best known among all military deployments (and more renowned, for Italians at least, than the Wellington and Waterloo "squares") was the one formed at Villafranca on June 24, 1866 by units of the 49th Infantry regiment around the august person of His Royal Highness the Crown Prince Umberto di Savoia on the border of the dusty road on the outskirts of the city, now commemorated by an obelisk hidden from sight and memory.



The Risorgimento of Villafranca, however, does not end with this important episode for another determining event took place within the old walls of that beautiful city in the Veneto region: the Treaty or Peace or Armistice (in fact we may only speak of preliminaries for peace) signed in the Gandini-Bugna palace on July 11th, 1859, between the Emperors of France, Napoleon III and Austria, Franz Joseph. This brought about the end of the second War of Independence.

Thus recognising itself in the salient page of its history, Villafranca has decided to consecrate the memory of it by establishing a Museum containing important documents, prints and various souvenirs gift of Luigi Carloti di Cavriana to the Municipality.

The important collection of prints shown in the volume which tells the history of the Museum and its collections is part of the precious material donated to the Museum.

The prints, which confirm the importance of Villafranca during the Risorgimento, are divided in different sectors. They represent a succession of events over decades forming the temporal space of the Italian Risorgimento: from the fatal Five Days of Milan in '48 to the revolt of Vicenza; from the salient episodes of the first battle of Custoza seen both from "our" point of view and from that of the Austrians (the dog, mascot of the "Prohaska" regiment, wounded and lamed at the Rotonda of Vicenza), the battle of Novara in March, 1849; the glaciis of Marghera and the Austrian lagoon outposts. And then the year 1859: the San Martino and Solferino "plans", Vittorio Emanuele and the Zouaves in Palestro, the capture of Magenta.

Further, the Crimean expedition and Garibaldi in Sicily. Lastly, mention must be made of the important series of politicians, military, martyrs and persecuted.

The gallery of portraits of the followers of Garibaldi is also very precious; among the latter is Enrico Cosenz in 1859 with Garibaldi in the Cacciatori delle Alpi Corps. The former became army Chief of Staff after the Unity of Italy. Like many other famous names he had been trained and educated within the austere military college "Nunziatella" which on November 15th, 1987, celebrated its 200th anniversary.

Engravings are of high quality and their origin is varied: from the prints of the Terzaghi brothers of Milan (the magnificent portraits of the official leaders of the Risorgimento), to the lithographs of the Adam brothers of Munich, to those printed by Briola of Turin and Alberti of Brescia, Legros and Marazzoni of Milan.

Lastly, the French prints of the Becquet brothers, of Morin and Rousselot are really remarkable. The declared aim (and, according to us, achieved) is that of starting a reasoned inventory of the historic material available.

In view of this, the analytical indexes in Part III of the volume are very useful and appropriate. It becomes easy to look up the

characters, places, engravers and printers.

In sum, the volume is a good example of how one can (and must) rearrange a rich heritage of history with intelligence, love and competence.

Gian Carlo Torcelli



M. de Arcangelis: "La storia dello spionaggio elettronico - Dalla prima guerra mondiale ai raids americani contro la Libia" (The History of Electronic Espionage - From WWI to the American Raids Against Libya), Mursia, 1987, pp. 245, 22,000 Lire.

Before the Second World War there was virtually one way of spying: that of secret agents, with limited technical means for gathering confidential information which were made available by the rudimentary technique of the time. However, the technologic revolution which has changed, in the last decades, our entire life, has also brought about radical changes in secret services. If, in the civilian field, electronics has completely turned over the traditional bearing axes of production and moved them to areas of little interest, in the military field, together with the most advanced research on nuclear weapons and space systems, it has totally changed the concepts of war, strategy and tactics. Nowadays the winning card belongs to whoever has the most advanced knowledge of electronic technology. Hence, the unending race of nations to get to know and seize the knowledge of other nations.

Espionage, essentially based on electronics, "intelligence" aimed at seizing as much as possible from the enemy in order

to keep updated, has permeated all social classes in all sectors. We live in an era of "stealth" airplanes, of satellites which see, hear and photograph everything; before being fought on the battle field, wars and conflicts are fought in advance on the basis of the availability of the most advanced technical means.

The author, Mario de Arcangelis, left active service in the Navy as Rear-Admiral and co-operated with civilian firms in the field of electronic defence systems. In this work he gives a very clear picture, supported by documentary evidence, of how espionage is structured and carried out and how it affects the most varied aspects of that subtle, invisible, silent war which has never ceased and which is fought day after day.

Ferdinando Schettino



Rivista di Cavalleria, (Cavalry Journal), bimonthly of the Cavalry National Association, 5, Via Damiana - 00192 Rome

Number 6/1987 of the "Cavalry Journal" bimonthly of the Cavalry National Association is now available.

The magazine, enriched by a print symbolizing the ideal continuity between the Cavalry of yesterday and the Cavalry of today is published in a limited number of copies intended for subscribers only and opens with an article by General Michele Caforio, National President of the Association.

In the article "Cavalleria? Chi era costei?", General Rodolfo Puletti outlines the vicissitudes of the Arm in the post-war years.

General Edmondo Zavattari writes about the colonial Cavalry squadrons and this subject is seen within the vaster theme of the Cavalry in East Africa.



The magazine then publishes a kind of brief chronicle of the most salient events which have recently taken place within units and departments, from Nizza Cavalleria to Savoia, from the Cavalleggeri Guide to the Military Riding School, to the Infantry and Cavalry School.

After an article dedicated to the 70th anniversary of the Pozzuolo del Friuli battle of October 31, 1917, large space is given to the activities of the National Association and individual Sections.

The Cavalry Journal, sold only through subscriptions, may be requested by paying a minimum amount of Lire 15,000 on postal account No. 58927005, in the name of Rivista di Cavalleria, 5, via Damiata, 00192 ROMA.

Ferdinando Schettino



G. Bedeschi (editor): "Fronte Italiano: c'ero anch'io" (Italian Front: I was there), Mursia Publishing House, 720 pages.

A new volume, particularly interesting for the readers, has just been added to the collection: "Testimonianze tra cronaca e storia" edited by G. Bedeschi and of which six volumes have already been published. This book concerns those military men who were closely involved in the vicissitudes of the second world war and even more those who, though not wearing a uniform, suffered the atrocities of war as well as most of those who only received information on the war, as Giuseppe Arcaroli remarks in his introduction to the book. Survivors of that time are few and will be less and less. Their memories are not only appropriate, but necessary and must be stamped in the

memory of whoever is intent on building the future of peace.

During 54 months of war, old men, women, children and men of all ages, were involved with soldiers in the vicissitudes of war and, maybe for the first time in the history of Italy, shared its fate. It is therefore only fair to give those who made History a chance to speak though remaining anonymous with their little lives and great aspirations. The people are the main characters of this book. The people who go by us everyday, whom we do not notice, but who could often tell us stories of little great heroes. Stories still vivid in the memory of the events experienced.

As the editor writes: "Many circumstances emerge from this book and acquire transparency, the relations among people, minor events which mark the hours of unknown people minute by minute; at the end, however, one realizes that the days of History spring from this unending and infinitesimal acting, bearing and suffering, under the blows of events, much more than they do from the will of leaders".

The civilian victims of the 1940-45 war were more than one hundred and fifty thousand, between dead and missing, more than half the toll of Italian soldiers. It is thus important to stop and look at the fate of these innocent victims and let those who were present speak of those days with their own voice, made hoarse by the passing of time, but totally lacking in rhetoric. We can meet them and talk to them, if we wish: at the end of each statement, the editor gives name, surname and address of each of those who have contributed in making this book, just as if we could touch with our own hands the live reality of these words. These words come mostly from women who with their extraordinary energy often managed to fill the gap between the tragic daily needs and the relationship with the men too often far away and unreachable. Bedeschi then goes on: "These women, their throats dry, often had to swallow despair and turn a smile on their lips, soothe their sons when bombers passed high in the sky or threatening and armed men shouted on the threshold".

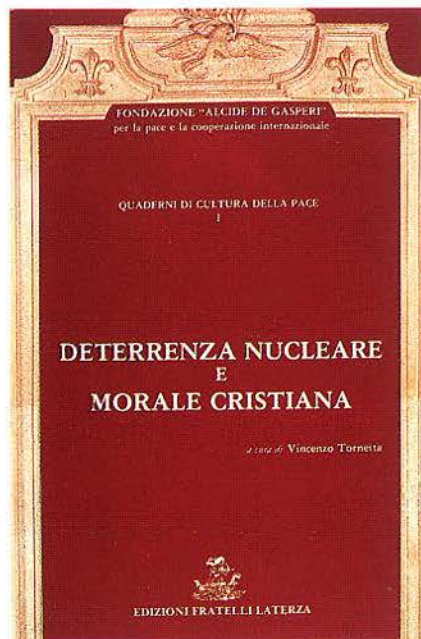
On the basis of the previous testimonies this book too, in the tragedy of soldiers at war, brings out the purest characteristics of the military vocation, not only for the sake of duty, but also for all that may defend and honour human dignity every time this is threatened and despised, scorning all celebrative triumphalism. We read of soldiers and old men, women and children brought together by the same sorrowful fate; stories written by simple people, sometimes contradictory as regards time and place, but for this same reason even more spontaneous, honest, genuine, totally deprived of manipulations.

The contribution of the National Association of Civilian War Victims, of its chairman Giuseppe Arcaroli, his collaborators and associates who recalled the vicissitudes they experienced was decisive to the making of the book.

Arcaroli himself underlines the impor-

tance of these "passages of true experiences, often still stained with blood, to be handed down to our young, to those who cannot remember because they did not experience these events but who may consider the pages of this book like a viaticum of life, so that such tragedies will never happen again.

Carlo Felici



"Alcide de Gasperi" Foundation for peace and international co-operation: "Deterrenza nucleare e morale cristiana", (Nuclear Deterrence and Christian Moral) edited by Vincenzo Tornetta, introduction by Ciriaco De Mita, folder No. 1, Fratelli Laterza, Bari, 1987, 247 pages, 25,000 Lire.

The problem of nuclear war cannot and must not be considered one regarding only strategy experts. Deterrence meaning the potential use of the most destructive weapons ever produced by man, concerns all living beings and presents aspects and raises questions, particularly of a moral kind, which have from the very start been object of attentive thinking in all classes of public opinion.

At present, characterized by increased difficulties within international relations, the yearning for peace cannot consist only in a demonstration of good will moved by an ideal or a moral scruple. It is obviously necessary to evaluate the multiple aspects and interactions which characterise international society and often cause tensions which threaten peace, but even more necessary is the true proposition to under-



stand the problems and try to find a solution without causing conflicts or actual violence.

The book confirms that Christian moral judgement on deterrence depends on the degree of responsibility of whoever expresses it. A theologian or a moralist, worried by the way their teachings will be employed, cannot, but express their unappealable condemnation of the use of violence and of all weapons — particularly nuclear ones — refusing deterrence as well despite its defensive nature. On the contrary, such a condemnation is deemed inadmissible by the episcopal Conferences of those countries too close to the potential enemy such as the Federal Republic of Germany or where national defence and independence are a strongpoint such as in France.

The Pope, universal guardian of doctrine and morals, must take into account the situation of all Churches, thus his position cannot but be an intermediate one.

In the message addressed to the first Special Session of the United Nations' General Assembly, Pope John Paul II stated on June 11, 1982: "In the present conditions, a deterrence based on the balance of the blocs — certainly not conceived as the final aim itself, but as a stage on the road towards gradual disarmament — may still be considered morally acceptable".

The fact remains, however, that international balances are changing a little too quickly and never before has mankind had to face risky alternatives which give rise to dramatic questions not only among Christians but in all people having an ethic con-

science. The sudden change of events, the present reality of nuclear weapons and the ensuing problems find religious and lay authorities experiencing and thinking the same way. The outcome is an ever growing debate which is essential in order to make public opinion aware of the problems

involved.

The work, edited by Ambassador Vincenzo Tornetta, marks the beginning of a series of "Quaderni di cultura della pace" by the Alcide De Gasperi Foundation and is intended to explain, particularly as regards moral implications, the abovementioned change which raises questions of the utmost importance within present international balances. The volume contains a series of eight monographic essays by scholars of ability, both Italian and foreigner. These are followed by a documentation of the most important oecumenical sources and a complete and comprehensive bibliography.

This is already culture of peace, for the very first objective of this culture is that of informing public opinion on the main problems besetting mankind and underlining the questions rising from this situation and awaiting some kind of reply.

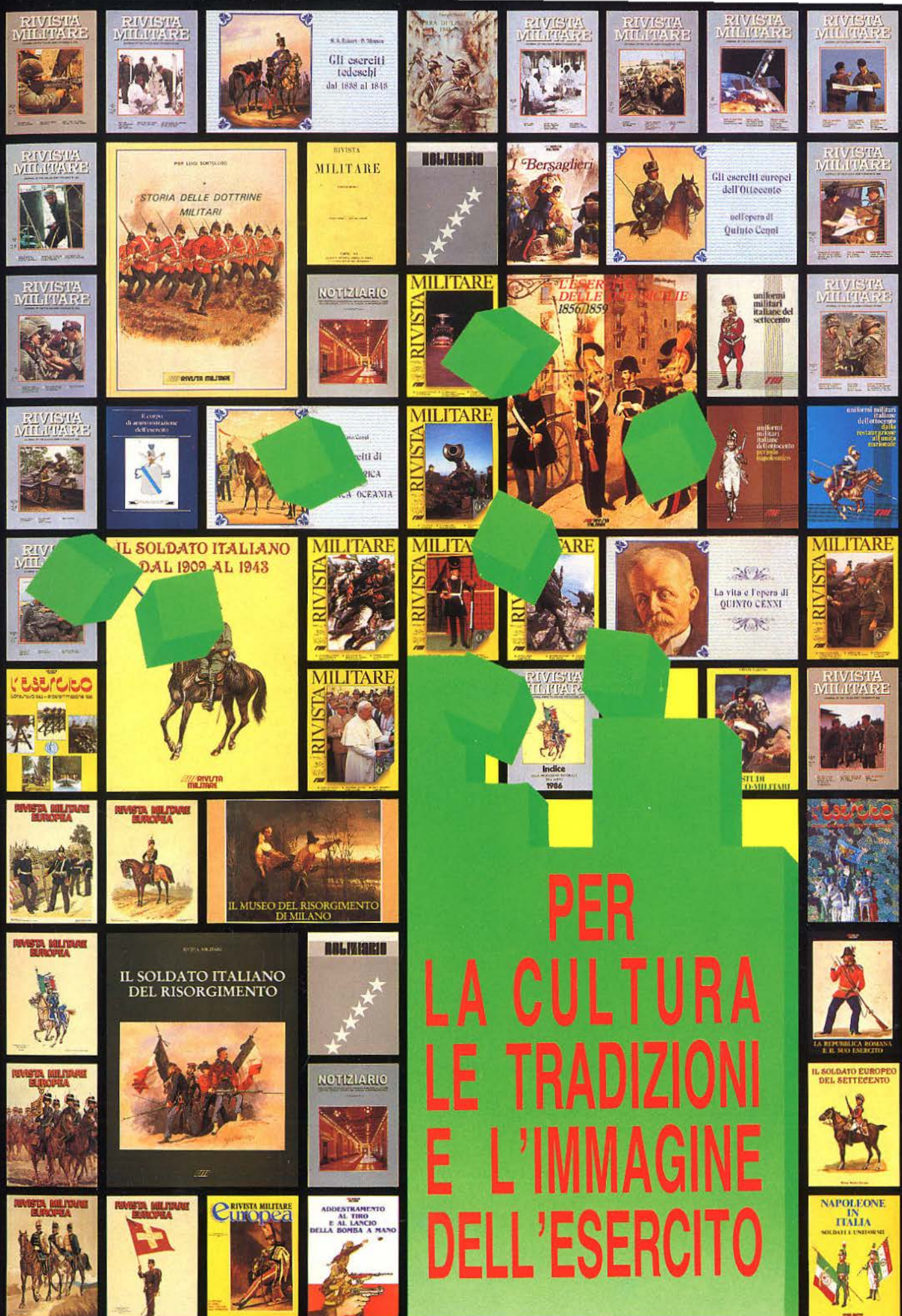
Ferdinando Schettino



Il diario di un combattente in Libia

Interessante diario di Stefano Longo, giovane ufficiale dei bersaglieri in Libia nel 1912, illustrato con pregevoli disegni. Riporta osservazioni di persone e cose senza alcuna retorica, con sentimenti di calda umanità e vivace senso di umorismo.

Verrà inviato in omaggio a coloro che, entro il 31 dicembre 1987, si abboneranno per l'anno 1988 alla *Rivista Militare*, versando L. 22.000 sul c/c postale n. 22521009 intestato a Stato Maggiore Esercito - Rivista Militare - Sezione di Amministrazione - Via XX Settembre 123/A - 00187 Roma.



PER
LA CULTURA
LE TRADIZIONI
E L'IMMAGINE
DELL'ESERCITO



THE QUEEN'S OWN
(ROYAL WEST KENT REGIMENT)
(50TH & 97TH FOOT)

RIVISTA MILITARE

JOURNAL OF THE ITALIAN ARMY FOUNDED IN 1856



SEPTEMBER
OCTOBER
1988

RE 4,000
\$ 4
M. 6
£ 3



CIRO DI MARTINO
Study Congress
Closing Address



DOMENICO TRIA
From Geography
to Global Strategy



PAOLO E. TAVIANI
Columbus
The Great Sailor

ITALIAN TOPEE (1911)
(with 10th Artillery Regiment badge)

The colonial helmet was very characteristic, with its high, roundish shape gradually widening towards the brim. Its frame was made of layers of leguminous water plants from East India and the Nile region; it was lined, both inside and outside, with very thin paper and cotton cloth, thinner than that of the uniform and of a light bronze colour.

The topee was decorated with the Italian cockade, a badge and a tassel.



MECKLENBURG PICKELHAUBE (1912)

The "pickelhaube", spiked headpiece, was worn by almost all German troops until the adoption of the steel helmet. It was covered with coarse cloth, gray or brown, on which the regimental numbers were painted, first in red and later in green.

From the protective point of view it was almost useless, being made of leather, and cumbersome because the spike, sticking out from shelters and trenches, made the wearer an easy target.

The problem remained also after the adoption of a grey cover and the removal of the spike.

AUSTRIAN HELMET (Mod. 1916)

It has the same shape of the German Mod. 1916, but it differs for its brown color and the brown hemp-cloth chinstrap, while the strap of the German helmet is made of leather.

On parades, three oak leaves or a pine twig — according to the season — could be applied to the left air-intake.

The padding consists of three layers of wax-cloth.

During guard duties, or in exposed areas, an additional bulletproof covering could be applied on the helmet.





European
Military Press Agency

**RIVISTA
MILITARE**

BIMESTRALE

Supplemento al n. 5
della Rivista Militare

Direttore responsabile
Pier Giorgio Franzosi

Dirigenza e Redazione
Via di S. Marco, 8
00186 Roma
Tel. 47357373

Pubblicità
A cura della segreteria
nell'Ufficio Rivista Militare
Tel. 6794200.

Stampa
Tipografia FUSA Editrice s.r.l.
Via Anastasio II, 95 - 00165 Roma

Spedizione
in abbonamento postale
Gruppo IV - 70%.

Condizioni di cessione per il 1988

Un fascicolo: Lit. 4.000
\$ 4 DM 6 £ 3
Un fascicolo arretrato: Lit. 8.000
\$ 8 DM 14 £ 6
Abbonamento Italia: Lit. 22.000
estero Lit. 30.000. L'importo deve
essere versato su c/c postale
n. 22521009 intestato a
SME Ufficio Rivista Militare -
Sezione di amministrazione -
Via XX Settembre 123/A - Roma.
residenti all'estero possono
versare l'importo tramite assegno
banca o vaglia internazionale.

Autorizzazione del Tribunale
di Roma al n. 944 del Registro
con decreto 7-6-1949.

Fascicolo curato da
Gian Carlo Torcelli

© 1988

Proprietà letteraria artistica
e scientifica riservata



Member of USPI
Unione Stampa
Periodica Italiana

CONTENTS



Number five 1988
September-October

The aim of Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.

Politics, Economics and Strategy

2 Study Congress Closing Address

(Ciro Di Martino)

8 From Geography to Global Strategy

(Domenico Tria)

Science, Technology and Training

20 Offensive combat. The Mechanized and Armoured Minor Complex

29 The Army NCO School One Hundred Years of History

37 The Artillery School One Hundred Years of History

(Mario Prato)

Sociology

50 Promotion of the Army Officers, Yesterday, Today and Tomorrow.

(Giuseppe Giubbini Ferroni)

History

52 Columbus. The Great Sailor

(Paolo Emilio Taviani)

Militaria

58 Military Academies and Schools in Philately

(Gianni Martinelli)

64 War Games

66 Cavalleggeri di Padova

68 Great Exhibitions

70 Book Reviews



Rules for contributors. Anyone can contribute. In the interest of the maximum objectivity of information, Rivista Militare allows contributors considerable freedom, although it does not necessarily subscribe to their opinions. The articles are published unedited and free of any editorial constraints and are therefore the sole responsibility of the Author and reflect his personal ideas exclusively. The topic must be treated in an original way and the articles themselves should not exceed 10 typewritten pages in length. The Author, got his reward, makes over his exclusive article right to Rivista Militare. Rivista Militare can make over Author's exclusive article right to other publications and to the periodicals of EMPA (European Military Press Agency). The articles should be accompanied by the necessary photographs, drawings and explanatory tables. Each Author is requested to send a photograph of himself, together with his "curriculum vitae" and a 10-line summary of the article to be published. Rivista Militare reserves the right to alter the article's title and to choose the typeface in which it is set.



ADDRESS BY THE CHIEF OF



THE ARMY GENERAL STAFF



On 19-20 April, the Army General Staff organized a Study Congress in Sulmona, under the High Sponsorship of the President of the Republic, on the subject "The Army in a changing society".

The whole number 4/1988 (July-August) of "Rivista Militare" (Italian Edition) deals with the Congress, as a significant contribution to the understanding and study of the military problems on the part of public opinion.

The English version of "Rivista Militare" will also present some reports.



*Protection of the artistic patrimony by
Ninni Verga*

On 20 April, at the end of the Congress, the Chief of the Army General Staff, General Ciro Di Martino, delivered a closing address.

We have talked about the changing society and the Army. When we talk about the Army it is a matter of course that we talk about personnel and equipment. My opinion on these two factors is well known to the whole Army and outside military circles too, because I wrote it on the night between 15 and 16 May 1987, in my first Order of the Day to the Army.

On that occasion, I stated that the problems the Army must face are manifold and difficult, that we could tackle and try to solve them with diligence and cohesion but that, in any case, the most important element of this community is man. Motivated and trained men are capable of accomplishing their tasks even with tools which are not the most advanced in the technological field, whereas the opposite is not true.

On the basis of this truth, of which I am deeply convinced and which, I know, is shared by the Army as a whole, the Service operates and maintains relations with the industry too. As previously recalled, these relations are extremely cordial, above all because they are very frank. Obviously, I cannot recall all the speakers, as I should,

also because I would risk to take up too much of your time; therefore I will only mention some of them. Mr. Marino, an experienced engineer, has spoken of the integration between Armed Forces, Army and Industry. Then, he has pointed out an aspect of which I am deeply convinced: the qualitative relationship. He is right; there will never be a quantitative relationship. Therefore, the Italian industries are obliged to export, because the Army will never be able to absorb all the production of our defense industry.

Mr. Gimelli, a well known engineer who honoured us with his presence, has mentioned many figures which are worrying in their blunt reality: only 2.8% of our spending is devoted to research and development. This figure, however, must be considered within the framework of the general situation. The defense budget amounts to only 2.2% of the Gross Domestic Product. If we deduct from this figure the expenses for the police who, in our case, are represented by the first Corps of the Army, the Carabinieri — and nobody would question the validity of these expenses — the percentage goes down to 1.60%.

Thus the Army, like the other two Services, is a first class evidence of Italy's adaptability to the contingent reality. In fact, the Armed Forces have a response capability which, had it been necessary, would have proved effective also in the incident, recalled by Senator Vittorelli, of the Libyan missiles fallen in the Italian territorial waters.

On that occasion too, despite the 2.2% budget, the Italian Armed Forces would have shown the required response capability, if requested to do so by the Government.

Professor Bignardi has spoken of the relations between

the Army and the University. I am grateful to him and I want to assure him that, as concerns the recognition of the university-equivalent studies accomplished by the students of our Academies and Schools of Application, actions have long been taken but, as in the case of all actions towards other State Institutions, a lot of patience and tenacity is required. Actually, these features have always characterized our actions and we are on the point of obtaining what Professor Bignardi hoped for, namely a wider recognition of our studies by the University. In fact, the studies accomplished at the Schools of Application are at university level, both for the qualification of the teachers and the activity of the students; consequently, it is only fair that their validity be recognized.

Of course, this collaboration between the Army and the University is closer in special sectors, such as the medical and technical Corps, and it could not be differently. These are Corps whose officers must have a degree in medicine, in the case of medical officers, and an engineering or physics degree in the case of technical Corps officers. As for the other officers, in line with what was advocated by Professor Bignardi, we must try to make the curricula of our institutes more similar to those followed by the University so that our students, at the completion of their military studies, will have passed a number of university-level exams that can be considered as a launching platform for obtaining a degree with only a moderate final effort. On the contrary, I do not agree on an initiative that, probably out of gratitude towards the Armed Forces, has been cherished and nursed in recent years: to grant the officers on active duty a degree

in Military Sciences. I have never accepted this initiative because I have always considered it as a sort of a contradiction in terms. An officer on active duty is, by statute and par excellence, a graduate in military sciences. What we want is that the majority of the career officers get also a university degree, in addition to their military education.

I thank President Mattucci for what he said about our meetings of December 1986. From his words, his warmth, his enthusiasm and his common sense I have understood why Professor Mattucci was elected President of the Abruzzi Regional Council: he embodies the best qualities of the people of Abruzzi and, in particular, a great patriotism, an attachment

to the institutions and a sense of the State that cannot but make the people of Abruzzi extremely close to the Armed Forces, above all spiritually.

Mr. Vespa, another native of Abruzzi, has reminded us, with a conciseness resulting from his work in television, the main events of the Army from the post-war years to the present day. To complement what Mr. Vespa said with so much realism and affection about our mission in Lebanon, I would like to mention what our colleagues of the Navy are doing in the Persian Gulf, which is a very troubled gulf indeed.

In taking the floor yesterday, at the opening of this Congress, I tried to illustrate the guiding principles which would have contributed





Despite a certain minority who, as was brilliantly stated, would like to put the Army into mothballs at no cost — apart from calling it in case of earthquakes or floods or other calamities — the Army represents a premise for the evolution of society. In fact, if it is true that to develop and evolve a society must, above all, exist and survive — as mentioned by the old saying “*primum vivere deinde philosophari*” — a full integration is necessary to enable this society not only to survive but, above all, develop after having attained its security.

The social motivation of the Army is therefore extended to a security concept which is the framework of all social and civilized progress. As a result of its active participation in the life and progress of the nation, of its integration in society, this Army — I mention the Army but this concept applies to the Armed Forces as a whole — is not only the prerequisite for evolution, not only the framework of evolution, but also a powerful catalyst of this evolution. Mr. Marino and Mr. Gimelli has acknowledged all this, by recalling that research and development, as well as the production of new equipment (which on many occasions has applications in the civilian life of the nation) are often stimulated by the boost given by the Armed Forces to our industries also through requests which, at first, cause some perplexities.

For instance, we all now talk about the integrated communication system Catrin but, a few years ago, when we all — civil industries and military authorities — accepted this project we accepted it as a sort of challenge to ourselves. In fact, at the beginning, even the most qualified people in the field of communications and systems did not know very well what to do to realize what we

to its success. I spoke of defense as a tool for survival in a world in constant ferment; actually, peace has never been talked about as at present but, at the same time, there have never been so many threats to it as there are now. Defense must assure, above all, survival, physical survival, territorial integrity, survival of ideas, culture and traditions.

Then we tried to go further and to extend the horizon of our vision; I have mentioned the security problem and examined it in the light of the development of society and therefore of its evolution.

I tried to link these four concepts and obtained a sort of mathematical proportion — I could thus state that the ratio

between defense and survival is equal to that between security and development/evolution.

All the reports, very interesting although brief on account of our desire to have the greatest possible number of speakers, proved that the basic approach of the Congress was shared also by all those present who have not taken the floor and I can assure you that on the basis of some exchanges of views I have had during the break I believe that the validity of this approach will be further confirmed when, in collecting all the minutes of this Congress for a publication to which the Army Staff intends to give the highest possible circulation, we will have time to ponder over them.



Transformation shapes-spirits by G. Balla

have now defined, with great satisfaction, the "system of systems". Therefore, considering that the Army contributes so much to the development of the country considering that the Army, as President Mattucci recalled, must live in a complementary integration, and the word "complementary" means something that cannot be eliminated because, basically, it is almost necessary, let's try to show more affection for this Army, to understand its needs, to realize that the Army is not composed of "angelic legions" and, therefore, there may be some deficiencies; but they are deficiencies to which those responsible for the management of this large community devote their continuous attention.

I would like to conclude by

recalling what an important person in world history used to say on the subject of the Army. Winston Churchill, who descended from a family with prestigious military traditions, stated: "the Army is not a limited liability company that can be modified or reestablished according to market fluctuations. Neither is the Army a lifeless structure, like a building or a house which can be restructured, modified, renewed, according to the wishes and the whims of the owner or tenant. The Army is something alive that must live within society and with society; something alive which, if hampered in its activity, becomes suspicious; if attacked unjustly and too frequently tends to withdraw and therefore to deteriorate and, once this happens, much time and money will be necessary to make the Army equal to its tasks".

I believe that Churchill's

suggestion is particularly suitable to conclude our Congress, during which we have discussed a subject that is extremely important to the Armed Forces, to the leading sectors of society and the public opinion at large.

Ciro Di Martino

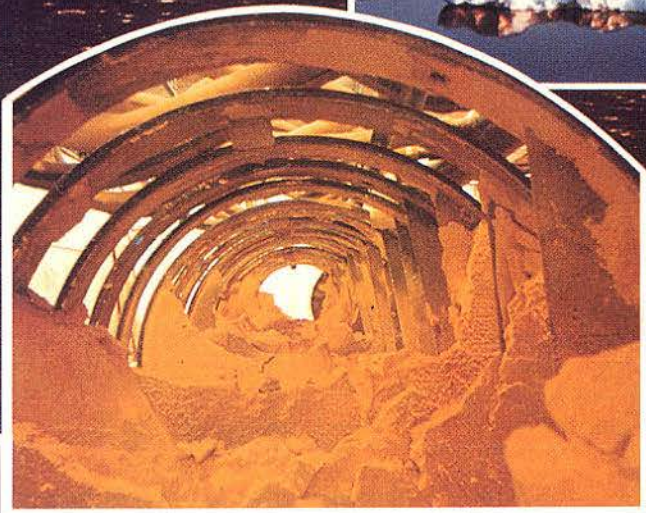
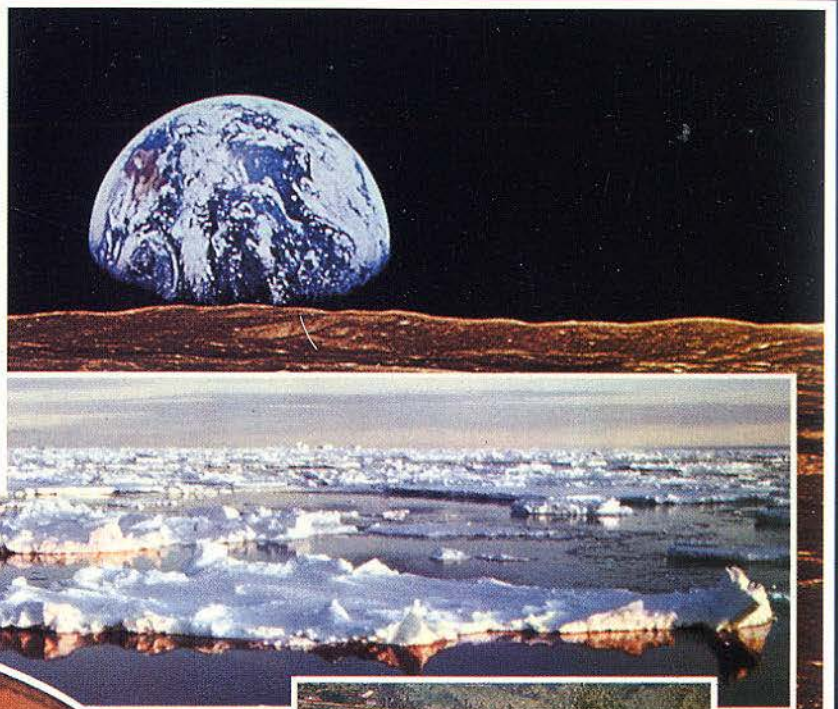
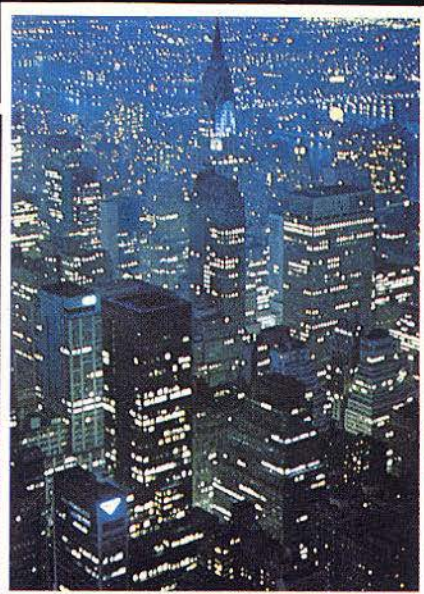
STATO MAGGIORE DELL'ESERCITO

**L'ESERCITO
NELLA SOCIETÀ
IN EVOLUZIONE**

**CONVEGNO DI STUDIO
SULMONA, 19-20 APRILE 1988**

FROM GEOGRAPHY TO GLOBAL STRATEGY

Through geohistory, geopolitics
and geostrategy



It is very clear that territory, and in a broad sense the natural and human environment, is essentially what links geography to history, politics and strategy.

In a way, geography represents a kind of knowledge needed to exercise a certain power on the environment and territory, and to organize the earth's spaces, with the aim of solving complex problems concerning with the economy and politics of the nations. For this reason, many think that the culmination of the whole geographic doctrinal arguments is to be found precisely in geopolitics, geohistory and geostrategy, seen as disciplines which analyze the geographic facts and phenomena according to their political, historical, strategic contents and potentials.

To understand the importance of this statement it is convenient to investigate, point by point, the meaning of the various terms.

First of all let's ask ourselves what geography is. According to an ancient concept, it is simply a general and descriptive science which studies the Earth. It is nothing else but a set of notions learned in high school: the height of Mount Everest, Europe's population density, the monsoon climate, the time zones, the Amazon's capacity, the size of Malaysia, etc., in which there is nothing to be understood, only things to be learned by heart.

It is just a mere description of the countries and a basic factual knowledge on the distribution on the Earth's surface of the various facts and phenomena, both physical and anthropical.

But nowadays, the meaning of the word "geography" is definitely detached from that of its etymological derivation and takes up a much wider one. This new meaning is based both on the observation and the analysis of the terrestrial and human geographic landscape,

together with its interpretation, and the study of the phenomena which take place, due to the physical and anthropical influences.

Therefore, geography is not just the science concerned with the Earth and the landscape, but the science of the physical, biological and human world.

In other terms, geography is the description of the Earth, starting with the analysis of the geographical event which always expresses a combination of elements and factors of different kinds; it is a science of spatial combinations; it is a method of considering things, human beings and the phenomena in their relationship with the Earth.

Traditionally, geography is divided in physical or natural geography — which also includes biogeography — and anthropogeography.

Anthropogeography is on its turn divided in various fields, such as social geography, political, economic, historical geography etc., sometimes considered as integrated in autonomous scientific problems.

These fields study the geographical facts and phenomena from different points of view: man's distribution on the Earth's surface and his settlements, cultural manifestations and languages, the situation of the Nations related to the environment and their political behaviour; the distribution and the utilization of the Earth's resources and of the economic phenomena; the historical process which explains the evolution of the human and social environment.

But it is precisely the fact of considering the territorial link which differentiates economic geography from economics, historical geography from history, political geography from politics etc. The key point, is the realization that the economic, historical or political fact cannot be analyzed without taking into account the territory on which it takes place.

According to the

environmental concept, anthropogeography studies the environment's influence on the formation of society.

This concept expresses the geographic determinism which, for a long time, has been the only doctrine which transformed geography in a discipline based on casual explanations.

The study of the environment owes its importance also to the fact that a great part of classical geography was based on it.

Without the acknowledgement and the acceptance of the environmental determinism, for many classical scholars, geography loses simultaneously its unity and its originality.

Its unity, because being divided in physical geography and in anthropogeography it immediately ends up by identifying itself, on the one hand, with natural science and, on the other, with human science. It loses its originality because this quality is found precisely in the synthetic vision of the numerous relationships that have always existed between the human groups and their natural environments.

The deterministic doctrine, according to which man is the product of the earth's surface, is opposed by the possibilist one, which is summarized in a sentence: "nature allows and man decides". Therefore the idea of humanity being subdued by nature is substituted by that of humanity interfering with nature: man plays more and more the role of cause rather than effect. Geography is the history of the adaptation of the environment to man's plans. The human factor is stronger than the physical one, so much so that there are populations which live in great contrast with the environmental bonds, as for example in the Eurasian tundras or in Eastern Sahara. It follows that, if civilization has not been imposed by the environment, the important thing is to understand how it established itself and how it adapted to the environment.



To avoid both the temptation of determinism and of reducing everything to a human science, a famous French scholar declared that: "geography is the science of places".

But more important than places are spatial relationships; in fact geography is the mutual relationship between the physical environment and anything that animates it or gives it life, where the geographic phenomena include cause and effect.

This being so, geography is a retrospective discipline, which does not offer openings towards the future because it has no laws, and just like history, it does not allow forecasts. It explains the present in view of the past without being able to predict the future in view of the present-day situations.

So, beyond the empiricist

and positivist image which makes geography a University or school subject, with no practical use, with the aim of giving a description of the world as a secondary element of a more general culture, geography is, in actual facts, a continuous process of interaction between man and the surrounding environment. This is so, due to the fact that the environment is a system of social, cultural and moral conditions in which the person is formed and defined and which results from factors which are not just geographic but also political, economic and historical.

The relation between the geographer and the environment is similar to that between the historian and historical events: the two parts are reciprocally linked by a relation of mutual dependence.

Geography is no more a simple study of the Earth and the environment, but rather the science of the physical, biological and human world.

A correct knowledge of geography is a necessary instrument for the utilization of territory in a general sense.

It is above all a necessary condition for the study of the geographical applications which are related to strategic, economic, historical and political problems. This means that together with the cultural geography which is developed in the Universities as a scientific subject, there also exists a kind of geography applied to the most varied fields of man's interest.

There is military geography for the study of tactics and strategies, the geography of the State officials for the

organization of space in regions and provinces, that of politicians for the exploitation of territories according to politico-economic parameters and that of the managers for the optimization of investments.

And there is also the geography of the travel agencies for the portrayal of panoramas, for aesthetic and advertising purposes.

Therefore geography deals with social, political, military, economic and ideologic problems seen in relation to the Earth's space, and the geographer is specialized in spatial analysis and spatial organization.

The fact that other disciplines took over the spatial problems might seem as though it could imply the dismemberment and disappearance of geography in a set of social sciences.

But this is not so, because geography is becoming ever more important as the basis for applied research.

Geographic research is developing rapidly in the most industrialized countries, where it is becoming a fundamental instrument for working out the plans for spatial and land organization and for the strategies of action of the political, economic and military leaders.

It is a new kind of geography which, according to some experts, will allow the passage of geography in the group of exact sciences.

In fact this new geography, which is also called quantitative geography, is based on the mathematical formulation of geographic reasonings and on their formalization in terms of mathematical models.

The working method requires the availability of a great number of statistical data, distributed in space and time, and of computers for its processing.

Something similar is happening for history, with the computers used for the so-called quantification process. This process presupposes the

plotting of data relating to historical events of the past, divided according to certain categories, so as to be ready to be programmed in the computers.

It is hoped that by processing a huge quantity of material, otherwise impossible for the individual to synthesize, there will exist the possibility to prerepresent reliable settings both for geography and history.

Nevertheless, until man remains the independent variable both for the geographic environment and for the historical event, one can doubt that all the position data will be defined in an equal number of inputs in the computer; and therefore doubt that all geographers and historians could be transformed in programmers and that it could be possible to place geography and history in reliable schemes.

GEOHISTORY

At this point, leaving aside the results which might be obtained by the quantification processes in geography and history, we could ask ourselves what is the bond between these two sciences.

History in its double meaning, i.e. as the research carried out by the historian and as the events of the past which are the aim of such research, has a double function: to help man understand the society of the past and increase his control on the present one.

Instead the role of historical geography is that of seeing how the social, political and economic context has developed and changed as time passed, so as to link the historical events to the environment and territory. Basically, it is the process of reconstructing historical events in view of the geographical reflections which are the guide for the choice and interpretation of the historical events themselves.

The symbiosis between history and geography becomes

true in geohistory seen as an approach to the study of the reality which is already present in the Nations not only as spatial history but also as anthropogeography.

Marx says that history does nothing: it is man, instead, who does everything, who provides, creates, changes, destroys and fights. But anthropogeography is mainly concerned with what man does and with his environment, therefore it has some fundamental links with history.

Indeed the role of anthropogeography is that of studying not only man's distribution but also his activity, together with that of the societies he forms, by isolating the historical events through the interpretations and by testing the interpretations through the facts.

Before studying the history of a population, it is necessary to know the geographical environment in which it developed.

In fact the basis of a population's identity is found in its history and geography. An identity which, after all, does not change through the centuries, since the ontological and ethical characters go beyond time.

To realize, rather superficially, what great importance geographic factors have for history, it is enough to remember how the causes and consequences of the wars are always related to the territorial features, inherent to alliances and peace treaties.

In the case of the First World War, it became inevitable when the two formations lined up: on one hand the territories of the Central Empires and their allies, and on the other hand the territories of the Entente with their own allies.

At the end of that same conflict, the Treaty of Versailles imposed great territorial changes. With reference to the "principle of self-determination of nations and nationalities", warmly supported by President Wilson, a constitution was

drawn up to make the Baltic States (Estonia, Latvia, Lithuania) and Finland independent, while Hungary and Bohemia were separated from the Austro-Hungarian Empire. With the fall of the latter some Slavic-Balkan regions were left free, and they joined up to Yugoslavia; Italy reached its natural boundaries; Poland was once again an independent State, while many other territorial adjustments were carried out in the whole of Central Europe.

As a consequence of the war, in Asia and Africa, several changes took place in the colonial dominions, mainly with the practical expropriation of the German colonies in Africa by Britain and France, and in the Pacific by Britain and Japan.

The changes which have been mentioned prepared the ground for 'germs' which, in 1939, were to cause the Second World War. This was mainly due to the fact that the much displayed "concept of nationality", had been left aside and mistakes were made from a geographic and ethnic point of view.

Anyway, even the end of the Second World War can be interpreted from a territorial and anthropogeographic point of view. In Europe and Asia, the boundaries were reestablished completely, while in Africa there was the development of new turmoils of independence.

The main point is that the geographic environment ends up by forming the background on which history draws its schemes.

Between history and geography there is a continuous and lasting exchange. The history of civilization itself, in its journey from East to West, from Asia to Europe and to Anglosaxon America, would be incomprehensible and meaningless without the support of geography.

In fact, how could one understand the history of the ancient civilizations from the Nile and Mesopotamia without

knowing the ancient physical and anthropical geography of the Middle East; or that of the Phoenician, Cretan, Greek and Etruscan civilizations, without knowing the ancient Mediterranean region; or the history of the Chinese, Japanese and pre-Columbian civilizations, neglecting to study the geographic environments in which they developed.

Also the history of the great geographic discoveries between the second half of the XVth century and the end of the XVIIth is a clear example of the close link between history and geography.

The accounts of the great exploration journeys made by Columbus, Vasco de Gama, Cabot and Magellan together with those of the Spanish, Portuguese and Dutch conquest of the East and West Indies; the events of the European colonial expansion in the New World, Africa and Asia, of the great migrations and of the development of world trade, can be understood only by studying the multiform historical, anthropic, physical and ethnic aspects of those events.

Events in which the historical and geographical facts make up the actual basis of the complex, political, social, economic and technological circumstances which made them possible.

GEOPOLITICS

Let us consider the relationship between geography and politics.

It is generally known that political geography studies the different situations of nations and States connected with the physical, human, economic and historical environment, to understand their evolution in time and space.

Well, in a certain way geopolitics is the application of political geography to the conditions of the territories and people of the individual countries in their different historical circumstances.

It is a kind of government's art, closer to the geographical reality, careful in the study of the Nations, their boundaries and the power relationship between the Nations and the ethnic groups.

Geopolitics is linked to geography by a whole set of factors like space, territory, populations, natural resources, political and social structures etc. It calculates space according to how man lives in it and how he uses it for his aims of domination.

The territory with its extension and geographic position represents an essential power factor. For example, the maritime position is extremely favourable for political expansion, especially when deep gulfs and estuaries connect the sea lines of communication to the land routes which advance into the continent.

History demonstrates the importance of the insular position, which has allowed Great Britain and Japan to express deep forms of nationalism and imperialism, both cultural and military.

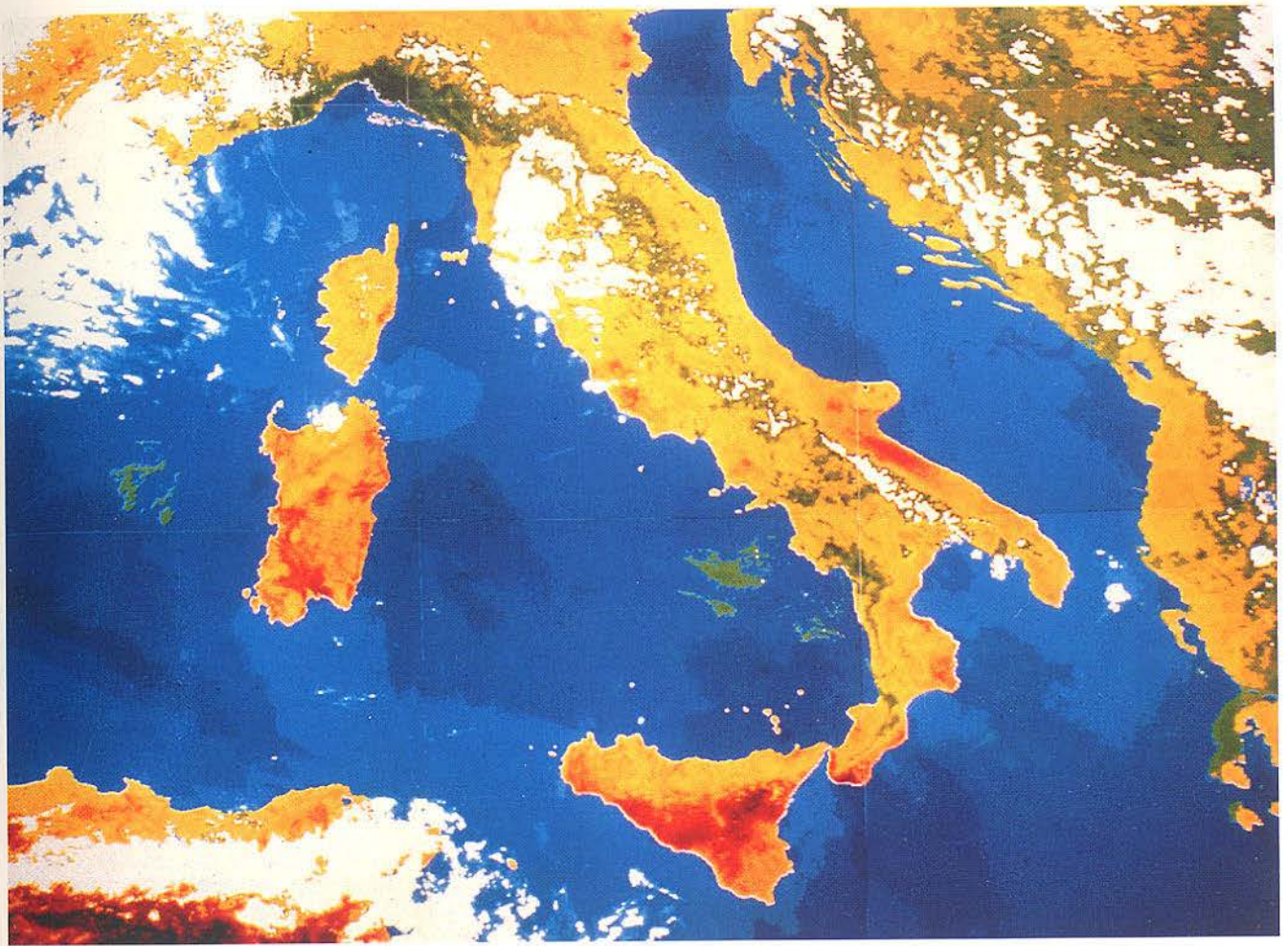
On the other hand, the continental position constitutes a situation which is diametrically opposite, and leads the central country to protect itself by forming a belt of "buffer States" historically destined to become battlefields.

As for the population, high density is an important geopolitical factor as are ideology, language, religion, character and traditions.

Obviously the social structures express political and economic capabilities which allow the acquisition of aims of development and civilizations fit for them and they are suitable to establish bonds of common affinities, interests and ideals among different nations.

It can be said that the alliances between countries, together with the political geographic plans which guide the conduct of wars, are the constituents of geopolitics.

It is not easy to establish



What binds geography, history, politics and strategy together is essentially the territory and, in a broad sense, the natural and human environment.

up to which point ideas and doctrines with a geographical character can influence the political choices which lead to alliances and wars; still, the fact remains that there are strong reasons to believe it.

The geographical description of world politics has found many famous interpreters.

The American admiral Alfred T. Mahan, studying the influence which the power of the British Navy had on history, put as basis of his doctrine the idea that to obtain political supremacy it is necessary to have the dominion of the seas. The best way for the United States to be secure was to build a fleet as powerful as the "Royal Navy", to control the Pacific. Even after the First

World War, the American global strategy was mainly aimed to the dominion of the Pacific, where Japan was an unavoidable rival.

Another vision of the world was that of Sir Halford MacKinder who identified Eurasia's central and northern plains as the pivot of history. To have worldwide supremacy it is necessary to dominate the great continental masses (in opposition to Mahan's theory).

According to this outlook, Russia, heir of the Mongolian empire, from its position would exercise a political pressure on the four marginal parts of Eurasia, where it is possible to exercise one's naval power i.e., East and South Asia, the Middle East and Europe.

In Germany, Friederich Ratzel, within the limits of the German geography at the end of the late 19th century, was the first to conceive geopolitics

mainly in a deterministic form. In this way the bases were laid for the theory of vital space, which after the First World War was destined to become an essential element of the Nazi cultural apparatus.

As a matter of fact, in August 1939, the pact between Hitler and Stalin, which connected in a single block the territories from the Amur to the Rhine, was the realization of Mac Kinder's theory.

Viceversa in 1941 the breaking of that treaty, caused by Hitler himself, was the introduction to what no expert in geopolitics had predicted, i.e. the scenario in which the naval powers of the United States and Great Britain made an alliance with the continental Russian power, against Germany.

Other international geopolitical scenarios were outlined by Spykman (theory of

the dominion of the Eurasiatic marginal arch), by de Seversky (theory of the air dominion) and others, who formulated theories in which the absolute predominance of certain means of communication by sea, land or air, formed the common requirement for worldwide or continental hegemony.

But because this very basic requirement has lost its validity — since in today's reality no means of communication is capable of obtaining an absolute or paralyzing predominance of the others — nowadays the mentioned geopolitical doctrines do not apply.

More suitable is the so-called "domino" theory which for many years influenced the diplomatic and military decisions of the United States, also at the time of the Vietnam war.

It consists in the image of the domino pieces: once you hit the first piece, its fall affects all the others which are then dragged in the same fall; only if two consecutive pieces are separated by a void, the reaction stops.

The equation: "fallen" equals "subdued" by communism, explains the American theory.

This vision corresponded to that of the second postwar period, when a series of European Countries were slipping in the sphere of Soviet influence.

The scene repeated itself later also for Indochina, when it was feared that the loss of the peninsula would have brought a "domino effect" in the whole of Southeast Asia.

Nowadays there are models which in many ways are alternative to that of the "domino", such as that of Mac Neile's "distribution of the power centres" or that of the "circles" which gives an image of encirclement of the Soviet Union through a belt of countries, among which there is also China.

But apart from the various doctrines, the fact remains that the simple awareness of geographic phenomena or of phenomena related to geography

can constitute geopolitical information. This happens when those phenomena are placed in a certain relation of causality, as for example earthquakes in South America, drought in the Sahel, the demographic boom in many countries, the degradation of the food potential in highly inhabited regions, the congestion in enormous urban centres etc.

Nothing is more geographic than a route of communication on land or an air or maritime route; still their position and potentiality, in relation to certain strategic areas and spaces, always express political conditions, together with economic and historical ones.

Finally it can be said that where there are geographical reasons that can influence the governments' political action, there geopolitics starts.

In effect, one of geopolitics' requirements is that man must be able to take advantage of the geographic situation to organize and develop the Nation's life in the international context.

GEOSTRATEGY AND LOCAL STRATEGY

What is practically destined to end up in geopolitics is, above all, geostrategy, which consists in a great territorial strategy dedicated to the study of large geographical environments.

Therefore the relationship between geography and geostrategy is very close, since it can be said that the latter studies facts and phenomena related to the former from a strategic point of view.

But what is strategy?

Up until the end of the XVIII century the term kept essentially its etymological meaning of organization of military operations, originating from the Greek *stratos* (army) and *agein* (to guide).

The definition of strategy in its more basic meaning was that of "the art of coordinating the action of the military forces

to reach a war goal determined by the political power".

Naturally, in time the concept of strategy has undergone a great semantic expansion through the work of many experts such as Clausewitz, Liddell Hart, Beaufre, Aron, Charnay, Poirier and others.

Whatever the definition of strategy, the notion always implies the virtual or actual recourse to force in a political, social, military, economic and commercial context, between two enemies who mutually deny the opposing aims of power.

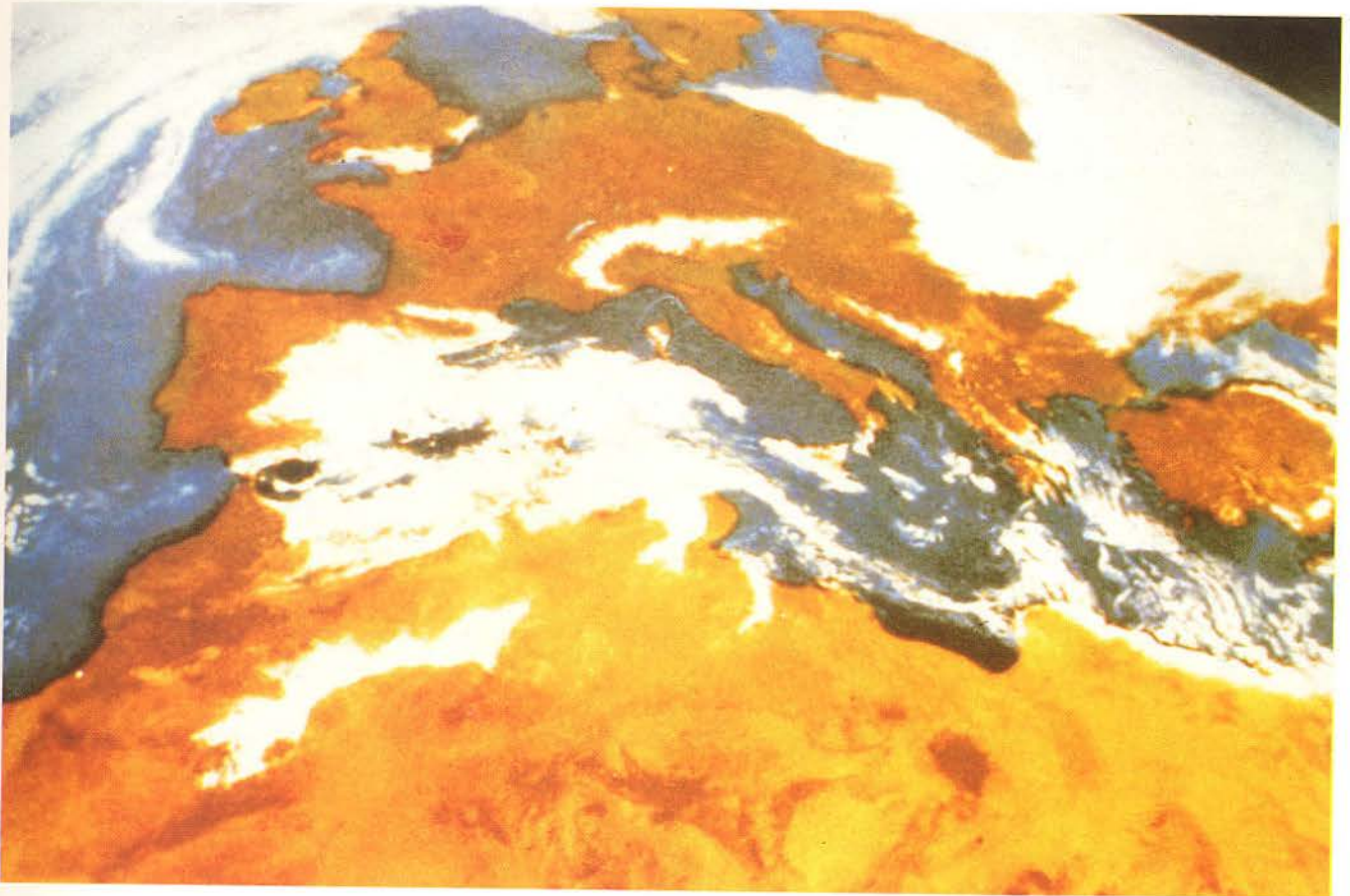
This means that the specific aspects of the environment, i.e. the field of application of the forces, outline various types of strategies. Nowadays, in fact, we talk about diplomatic, economic, industrial, social, technological strategies etc.

In any case there is a dimension which is common to all types of strategy, which comes up with more or less intensity: it is the social dimension which always influences the strategic environment and which is influenced by anthropogeography.

So geography and geostrategy find themselves united in all the problems and phenomena which have strategic importance.

In the scenery of the strategic relations, the geostrategic factors are always emphasized, both the physical ones, such as insularity, morphology, climatology, and the anthropical ones such as social, technological, urbanistic, cultural and ideological development etc.

It is undeniable, in fact, that the same contemporary strategy, characterized by deterrence and escalation, remains conditioned by the geostrategic peculiarities of the two opposite blocs: Soviet continentality, American maritime character; contact or non-contact situations; possibilities of movement on internal or external lines;



A correct geographic knowledge is the necessary prerequisite to study the applications of geography dealing with strategic, economic, historical and political issues.

consequent deployment of the military instrument and its subdivision into nuclear, conventional, naval, land and air components.

The politico-strategic play is based on the power factors and on the conditions of vulnerability, among which there is the geographical position of a country for the geostrategic possibilities which it offers and for the geoeconomic potentialities enclosed in it.

The geographical position is also necessary to prerepresent all the possible scenarios of actions and reactions, and of the limits of freedom available in the study of the operational sectors. These offer the clearest examples of the interaction between geography and strategy.

Let us consider the scenario of the NATO theatres along the contact line between

the Atlantic Community and the Soviet Bloc, which extends for about 2,600 kilometres.

Geographically speaking, to the North we find the large morphological region called Fenno-Scandinavia and the Baltic Sea, which is the heart of the North European sector. Here the geostrategic aspects give the region a remarkable importance: on the one hand in the air sector, since in the Scandinavian area there are the shortest air routes that go from the bases of North America, Greenland, Iceland and Great Britain to European Russia; on the other hand in the naval sector, because from this area it is possible to control the sea routes that go from the Baltic Sea and the White Sea to the Atlantic.

There follows the Central European sector, which includes an area of great historical and strategic importance, between the Rhine and the Vistula, with three different operational spheres: a flat strip to the North (with the "Polish

Corridor" and the Flanders); a central strip, formed by the Hercynian reliefs (with the well-known salient in Thuringia); southwards there is the strip which includes the Danubian plateau and extends from the Vienna basin to Savoy. The geographical conformation of these areas clearly determines the strategic lines for the armies' movements and the objectives of the opposing forces.

To the South we find the South European Theatre without points of contact between the two blocs up to the Greek-Bulgarian boundary, which includes the Northeastern Italian sector (with the Tarvisio valley and the Gorizia threshold) and the Balkan sector, of which it is superfluous to remind the composite ethnic, strategic and operational characteristics.

The line of contact between NATO and the Warsaw Pact then continues and ends in the Turkish-Russian land sector, with the strategic centre of Erzerum, in the Armenia-Kurdistan region, which ends

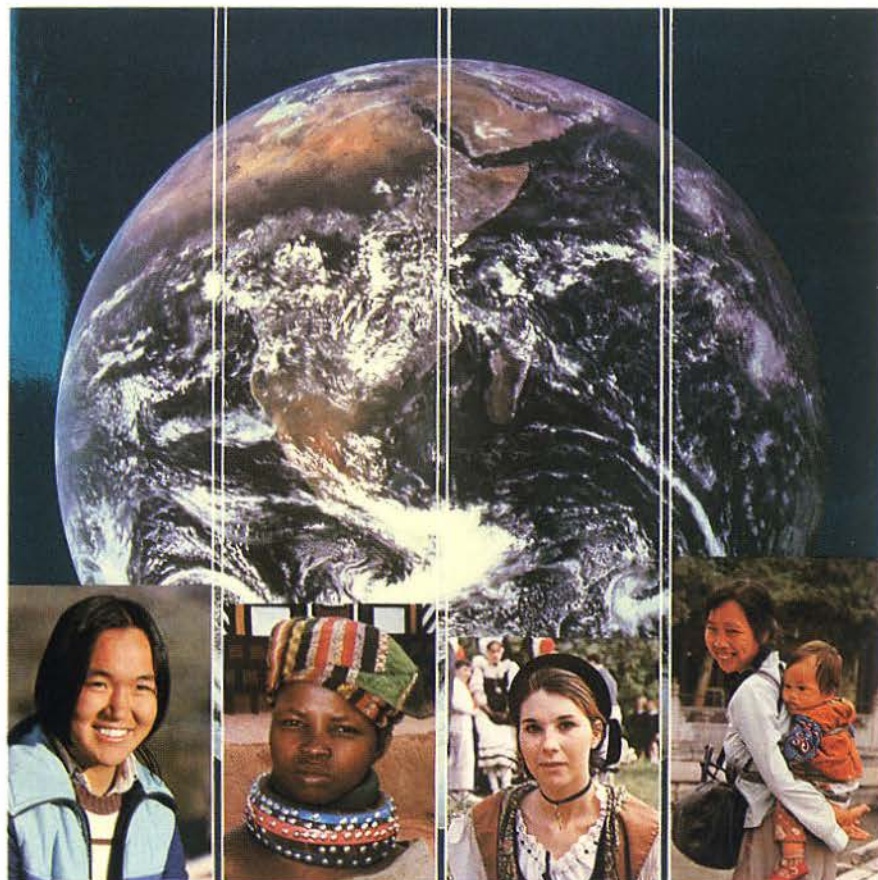
with the biblical Mount Ararat, meeting point of the Turkish-Russian-Iranian borders.

Another sector which demonstrates the importance of geostrategy is the Arctic, which includes the homonymous Sea and various Arctic lands, as the American and New Siberian archipelagoes and the Norwegian Svalbard Islands. The geographical position assumes here all its importance, considering the distance which separates the American bases from the Russian centres and comparing it to that which separates the Russian bases from the American neuralgic centres. In fact the main industrial centres of the Soviet Union are concentrated between the 40th and the 55th parallel North, a short distance from the Thule air base in Greenland, while the American ones are between the 30th and the 45th parallel, i.e. at a much greater distance from the Soviet airports.

For our aims, apart from the operational sectors, we can consider the various areas with conflict situations or which are points of convergence-i.e. those regions on which several conflictual areas gravitate — where, nowadays, a new strategy is expressed. This materializes through local subversions, military or political pressures, acquisition of bases, secret or open deployment of military forces, threats to the enemy, through the deployment of medium and long range offensive weapons, etc.

Important areas with conflict situations, which have a main role in geostrategy, can be found in every part of the world.

Nearer to us many of these areas look on to the very large converging point of the Mediterranean; they connect, without interruption, the Maghreb to the Middle East and the Persian Gulf. This area concerns countries like Tunisia, Libya, Egypt, Israel, Jordan, Lebanon, Syria, Iran, Iraq and the countries in the Arabian Peninsula. In these countries, apart from the Palestinian cause which plays a



fundamental role in their instability, there are also religious irredentism, economic crises and the Iran-Iraq war.

The whole area is dominated by the importance of the African and Middle Eastern coasts on the Mediterranean, and the coasts of the Horn of Africa, Arabia and Iran on the Indian Ocean, where there is a long-term conflict of wills between the European, American and Soviet security and strategic/political interests.

To explain it simply, the Western interests in that area are oil, the Arab-Israeli peace and the sphere of influence needed to stop the Soviets from using the same area as springboard and support base of their strategic lines of supply and expansion towards the straits of the Black Sea, the Persian Gulf and the Suez Canal.

Geographically speaking, the Middle East includes the birthplace of the old civilizations of the Nile and Mesopotamia and the strategic joining centre of Eurasia and

The function of anthropogeography is not only to study the distribution of men, but also their activities and those of the societies formed by them.

Africa. In this oil-rich region, divided among the fragments of Islam, someone has identified Mac Kinder's pivot and the axis on which history turns.

In any case, it extends on natural environments, often prohibitive, which vary between subglacial mountain areas and large desert zones, where temperatures reach 130° Fahrenheit and sandstorms are not infrequent, like the one during the unsuccessful attempt to save the American hostages in Iran.

Other conflictual areas situations can be found in Asia and in the Far East. In Western and Central-Southern Asia, the Afghanistan area acquires an autonomy of its own after the Soviet armed intervention, while the Indian area maintains its ancient conflictuality, above all in the direction of Bangladesh.

In South-East Asia the conflictuality in the Indochinese peninsula is still high, while a



Before studying the history of a population, one should know the geographical environment in which it takes place.

widely spread conflict situation is found in the insular countries of Indonesia and the Philippines. In the Far East the hot areas are the two Koreas, Formosa and the valleys of the Amur and Ussuri.

In Central America, an area of conflictuality includes the countries that go from Mexico to Panama — in which some think it could be possible to apply the "domino" theory — and gains its geostrategic importance from the fact that it is situated at the crossroads between North America, South America and the Atlantic and Pacific Oceans. Another area is the Caribs, in which Cuba has a dominating position on the sea routes connecting the Southern United States with the Atlantic. But the real heart of the instability in these areas are endemic poverty, social differences and the political instability of the Central American Countries.

We have seen that the scene on which nowadays the superpowers act directly or indirectly to achieve supremacy, is a vast and almost incomprehensible picture. Anyhow, from the right evaluation of the lines of force acting in the various geostrategic areas, comes the possibility of correctly interpreting facts and events which, even if apparently isolated, are always projected on the background of the world's geopolitical and geohistorical situation.

Finally, one understands that what is strategic cannot be completely separated from what is geopolitical and geohistorical and vice versa.

On the other hand, as was has already said, strategy's specific aspects can never be of only one kind, but they include sectors regarding the military, economic, diplomatic, social and cultural strategy, in one word global strategy.

A theory of the strategic theories does not exist; the best thing that can be found is

a set of elements and examples which are not really suitable to make forecasts.

Global strategy is in fact a science of action, created and developed in hybrid conflictual situations, whose effects take place in a period of time which is at same time geohistorical, geostrategic and geopolitical. An action which lasts in time and develops according to a cybernetic process (retroactive effect of decisions).

A science of action, which to be "strategic" must have some characteristics, i.e. it must be economical, in terms of cost-effectiveness, rational in terms of risk, heuristic, well-founded and practical.

It is a fact, for example, that today's nuclear strategies are all based on the rule that a nuclear war would not give a rational solution to conflicts; it is the non-war strategy, based on the dialectics of mutual threats and on deterrence.

Every strategy, in the limits of the global strategy in which it is included, must analyze its objectives keeping in mind the

social, historical and geographic context in which it operates.

It follows that global strategy is an ever changing process which coordinates all the power factors of a Nation and takes into account all the conditions of vulnerability, with the aim of reaching the established objectives.

It is therefore a meeting point of various sectorial strategies focused on specific military, technological, social, environmental, economic, cultural and contingent dimensions.

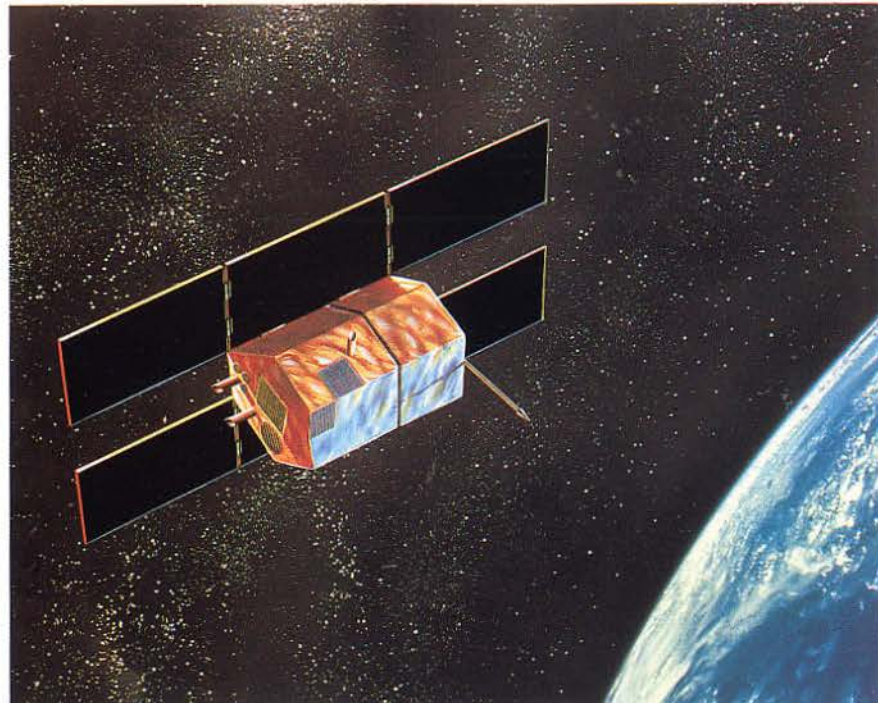
In this picture, to have a strategic mentality means knowing how to grasp the strategic dimensions of problems and situations and how to transform them in parameters to be introduced in the formative process of the strategic concept.

It therefore seems fully justifiable to think that the study of geography, which is directed to the problems of geohistory, geopolitics and geostrategy, is essential to obtain this kind of mentality.

CONCLUSIONS

We started with geography and end up with global strategy, which moves and leads us to geopolitics and the great historical scenario surrounding it. The theatres of the Arctic, the Persian Gulf, the Indochinese Peninsula, the European and American sectors, all express contents which are at the same time geopolitical, geohistorical and geostrategic and are inspired by geophysical and anthropogeographic reasonings.

Between natural and human geography and strategy, politics and history, there is a continuous process of interaction, even if each discipline has its precise autonomy. For example, Italy in the Mediterranean for the geopolitician is a political entity with its own ethnic, linguistic and religious individuality; for the geohistorian it is the



birthplace of Roman civilization, heir of the Greek one; the geostrategist sees Italy as the centre of the Mediterranean, the point of control of the whole area.

Constant witnesses of this process are the ancient and modern maps which show, in a continuous space-time pattern, the historical and human environment, the territory with its obstacles and critical areas, the climate, the urban distribution, the communication routes, all essential elements for the strategic and tactical concepts and for the historical and political evaluations.

So, all that is political, historical and strategic inevitably includes geography as the science which expresses all natural and human environmental conditions, including the economic and social relations which determine the quality of life in a given territory.

This was the point which we wanted to demonstrate examining the relations between geography, history, politics and strategy.

At this point it is possible to make the last conclusion of our discussion and that is that

After all, the geographic environment is always the setting in which history develops its designs.

geography, far from having lost importance in the teaching programs of the military and civilian Universities, in the last years has gained more of it, as an essential basis for the studies of geostrategy, geopolitics, geohistory, and therefore global strategy.

Col. Domenico Tria

FROM
GEOGRAPHY
TO
GLOBAL
STRATEGY

①
FOUR 25 mm KBA OERLIKON AUTOMATIC CANNONS
DAY AND NIGHT OPTRONIC FCS RATE OF FIRE: 2,400 RPM

SG NESTANI M - 1108



THE SIDAM 25 SYSTEM, HERE ON A M113 APC, IS DESIGNED AND MANUFACTURED UNDER SPECIFICATION OF THE ITALIAN ARMY

4 x 25 'SIDAM 25' TURRET OTO MELARA MOBILE AA SYSTEMS 76/62 'OTOMATIC' TANK



AUTONOMOUS AA WEAPON SYSTEM - RATE OF FIRE: 120 RPM
RADAR AND OPTRONIC SEARCH & TRACKING CAPABILITY
FULLY STABILIZED FIRE CONTROL SYSTEM



OTO MELARA SpA, ITALY (I 19100) LA SPEZIA, 15 VIA VALDILOCCHI
TEL (39-187) 530 111 - TLX 270368-281101 OTO I - TELEFAX (39-187) 530 669

A Company of the OTO MELARA - BREDA MECCANICA BRESCIANA - OFFICINE GALILEO Consortium

GRUPPO
EFIM
 FINANZIARIA
 E. BREDA

OFFENSIVE COMBAT



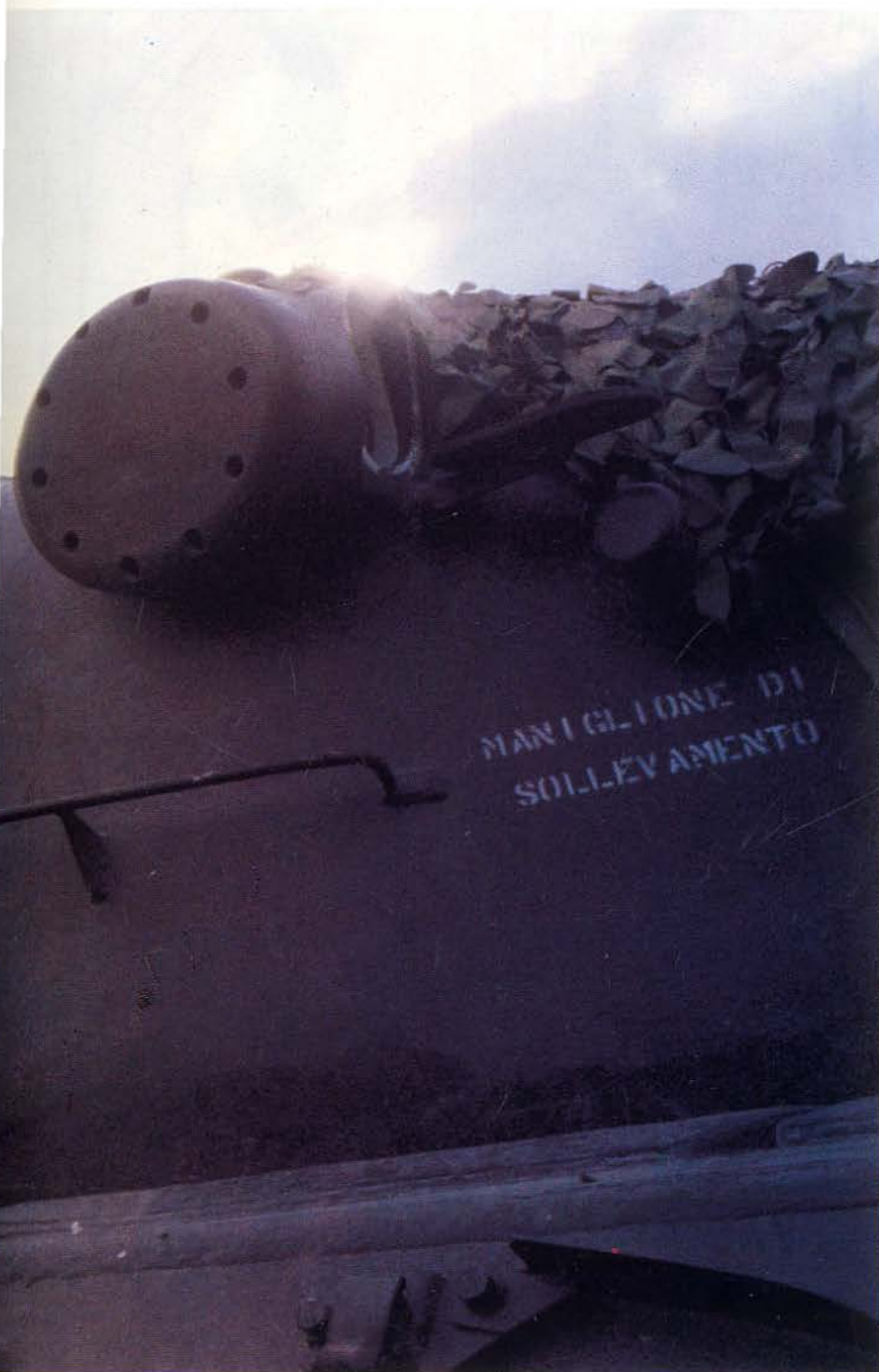
THE MECHANIZED AND ARMoured MINOR COMPLEX

In offensive combat, the mechanized and armoured minor complex generally operates within a combat group and may take part in all phases of the battle, carrying out one or more elementary tactical actions.



As regards employment, it is generally divided in platoons or patrols and reserve. Platoons carry out fire and movement actions variously combined in time and space according to their task.

The Commander of the minor complex conceives, organizes and carries out the manoeuvre submitting the enemy to his initiative and avoiding frontal attacks against organized positions as far as possible. He will not engage against the strongholds of the enemy deployment and will quickly adapt the formation according to the developments of the situation, exploiting the surprise element.



STAGES OF THE OFFENSIVE BATTLE

Battle deployment
Attack
Annihilation

ELEMENTARY TACTICAL ACTIONS OF OFFENSIVE COMBAT

Movement to contact
Attack
Holding
Infiltration

MOVEMENT TO CONTACT

This is chiefly carried out during the tactical land reconnaissance on land and the continuation of the efforts in depth.

It aims at looking for and establishing contact with the enemy, spotting out its location, size, nature and attitude in order to obtain the information necessary to organize the subsequent operational activity. It is carried out by a minor complex, generally armoured, at company level formed by two or more **scout patrols** in charge of finding and establishing contact with the enemy and a **reserve** designed to remove any resistance which might prevent the patrols from proceeding.

The minor complex acts astride a route assigned by the higher Command or, in some cases, in a sector spreading out for 7-8 Km. Its manoeuvre aims at making the forces penetrate quickly and deeply, outflanking and overtaking the enemy forces and accepting combat only when unavoidable and ends only when it has achieved contact with a considerable number of enemy forces.

THE SCOUT PATROL

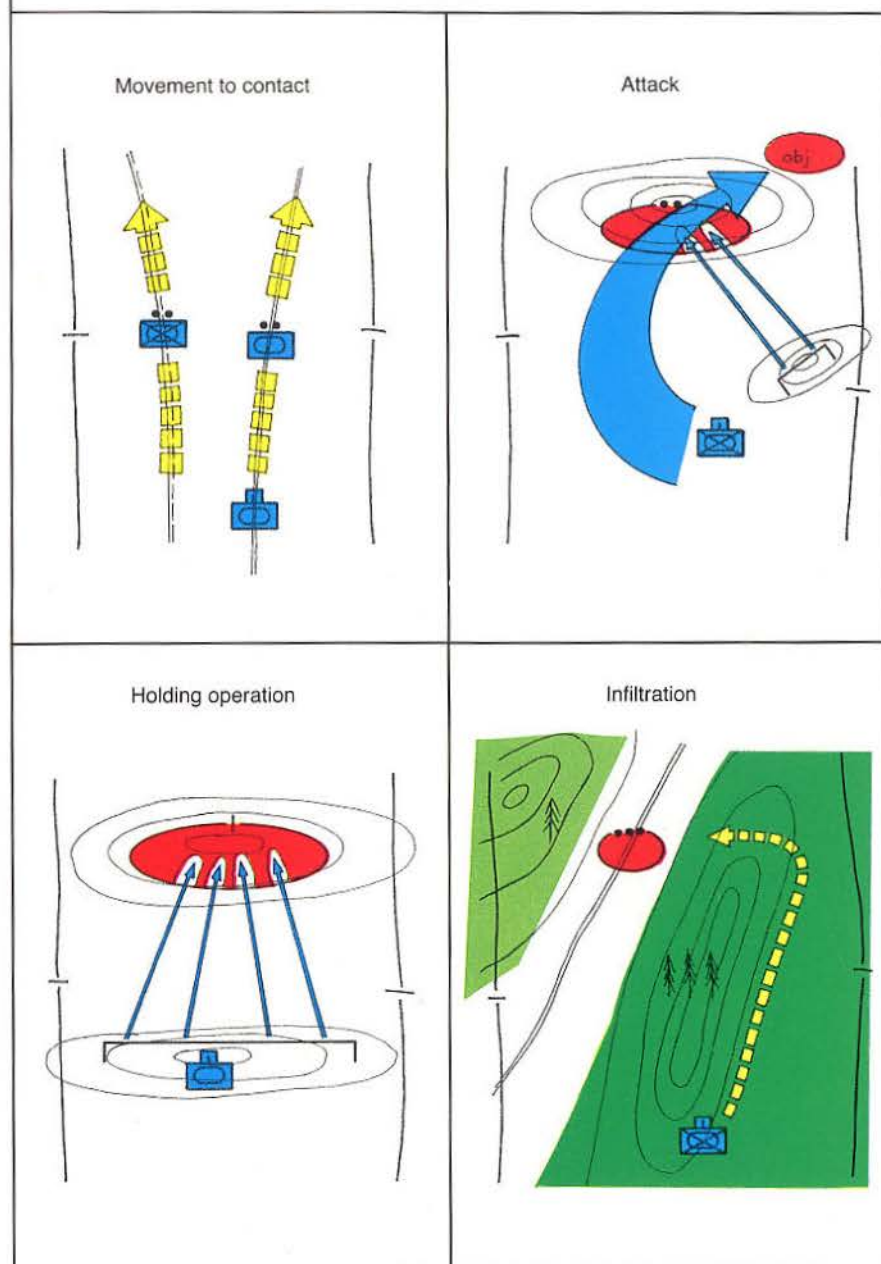
This is formed by a nucleus of 2-3 tanks (or medium range antitank weapons) and by a mechanized rifle squad. An artillery or mortar observer officer, elements of the Engineer Corps and of the NBC squad as well as the support of aircraft of ALE (Army Aviation) are useful and often absolutely necessary.

It acts astride a route or direction assigned by the Commander of the complex, with the task of looking for the enemy and give the higher Command all useful information on the enemy and the terrain.

THE RESERVE

It is formed by the remaining forces of the complex and may be employed to

EMPLOYMENT OF THE MINOR COMPLEX IN THE DIFFERENT PHASES OF THE OFFENSIVE BATTLE



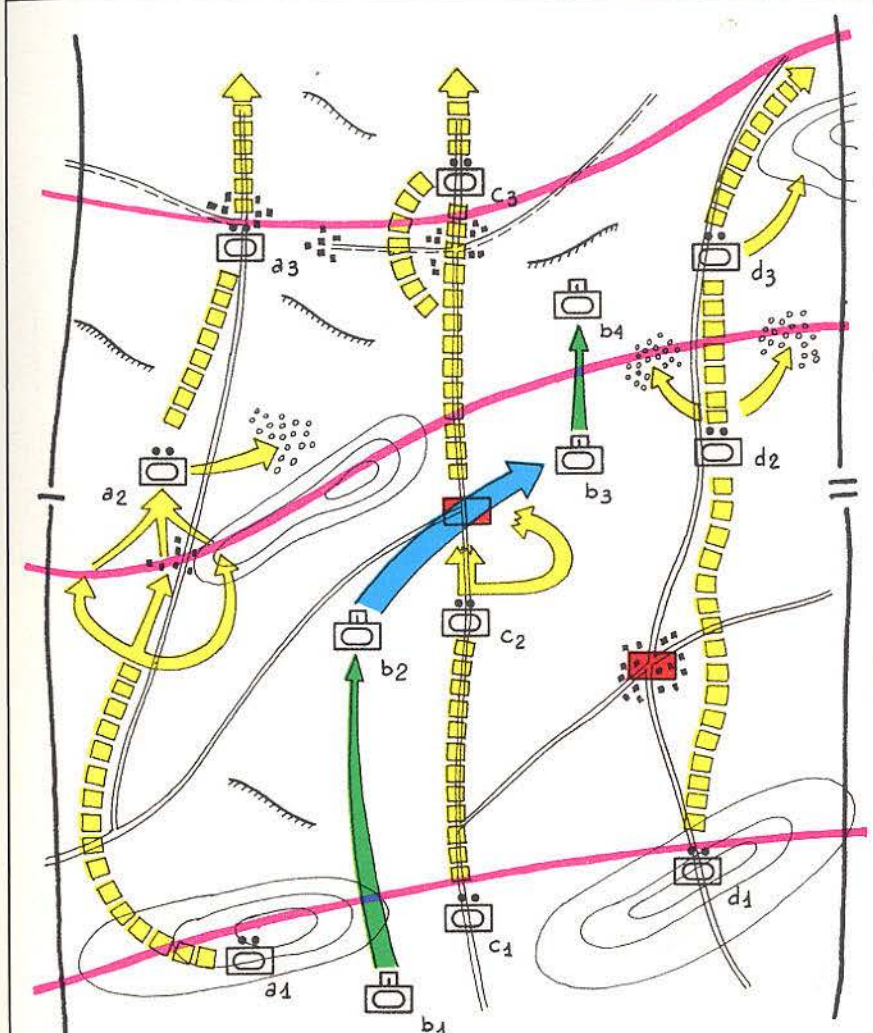
strengthen or replace the patrols which might have lost their operational capability, to detach other patrols along new directions, and to act in favour of patrols stopped by the enemy.

It moves astride the route assigned by the higher Command, moving by bounds from one report or phase line to the next one, at a distance of about 3-8 Km from the scout patrols. The higher Command,

The Commander of the minor complex, on the basis of the orders received, conceives the manoeuvre in terms of:

- facility routes to be used for movement;
- positions on which to polarize the activity of research;
- initial gravitation;
- employment of the reserve.

MOVEMENT TO CONTACT



LEGEND

	patrol		movement of patrols
	reserve		intervention of reserve
	enemy units		movement of reserve

through the necessary feeding system, always guarantees the availability of the necessary reserve.

THE DEVELOPMENT OF THE ACTION

The action starts with the movement of the scout patrols astride the route assigned. The antitank nucleus follows the

mechanized squad at a distance of 100-600 m and, with an "earthworm" movement, keeps ready to give immediate and efficient fire support to the scouts in case they encounter the enemy.

Observation is of utmost importance for the fulfillment of the task and the very survival of the patrols.

The assistance given by helicopters is particularly

valuable. In tactical flight they integrate, extend and connect the action of the scout patrols.

Once contact with the enemy is established, the patrol Commander timely informs the Commander of the complex and ascertains location, size, nature and attitude of the enemy. He sees into the chances of outflanking, the presence of mines or minefields, air cover and the features of the terrain.

Once this is done, the patrol, if possible, outflanks the enemy elements and carries on the action in depth or, if necessary and convenient, attacks with an enveloping movement. If it is not possible to go on in depth and it is not deemed convenient to attack, the patrol maintains the contact with the enemy to prevent it from withdrawing and asks the Commander of the complex for the intervention of the reserve.

If this were to be insufficient to remove the resistance, the Commander of the combat group, upon request of the Commander of the minor complex, orders his reserve to intervene.

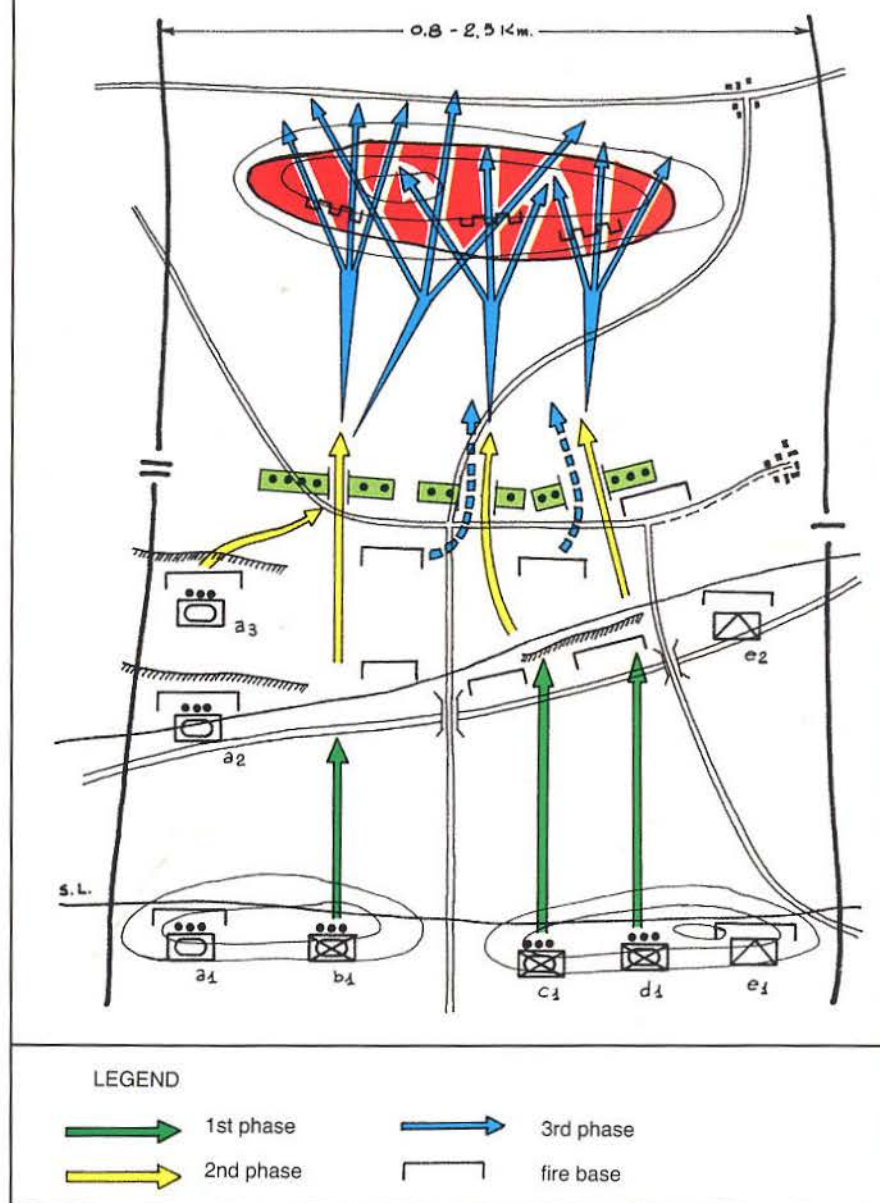
Once the problem is solved, the patrol starts moving again and the reserve takes up its former position in the formation.

The action is over when contact is established with strong enemy forces which may not be overcome by the units in charge of carrying out the tactical land reconnaissance.

THE ATTACK

This is the final elementary tactical act of the offensive combat and aims at destroying the enemy forces and conquer an objective. It is carried out astride a single direction cutting the flank or the rear of the enemy positions. As regards the kind of forces available and opposed and the degree of the defensive organization, the action may be carried out by a mechanized or armoured minor complex, either homogeneous or mixed.

ATTACK OF A MECHANIZED MINOR COMPLEX



THE ATTACK OF THE MECHANISED MINOR COMPLEX

As a rule, the minor complex acts in a sector 800 m to 2.5 Km wide and considers the employment of one or more advanced platoons and one or more reserve platoons. According to the situation, the mechanized troops may fight from the vehicles or on foot. Tanks, when available, give greater power, speed and dynamism to the pace of

progression. The reserve is generally employed to sustain the advanced platoons with fire, guarantee protection to an exposed flank, repeat, integrate or carry on the action of the advanced platoons, in order to face sudden threats. Antitank weapons may be decentralized to the platoons or kept at hand for the establishment of a complex antitank base.

The formation is put together according to the contingent situation though, generally speaking, it is more



The mechanized minor complex is suitably employed to attack highly or fairly organized positions or structures with a marked antitank function.

The armoured minor complex, may better exploit its technical and tactical characteristics in the more dynamic stages of the offensive and counter-offensive combat or against positions having a limited degree of solidity and a rather low antitank reaction capacity.

convenient to keep at least one reserve platoon and deploy all weapon systems, so that the enemy firing sources which may interfere with the units' progression may be struck.

The forcing of the mined obstacle in the presence of the enemy is always a burdensome operation. One should always consider the idea of outflanking it.

THE DEVELOPMENT OF THE ACTION

After the possible occupation of the departure base which may be necessary to improve the organization of the attack, the mechanized minor complex crosses the starting line covered by



ATTACK OF AN ARMoured MINOR COMPLEX

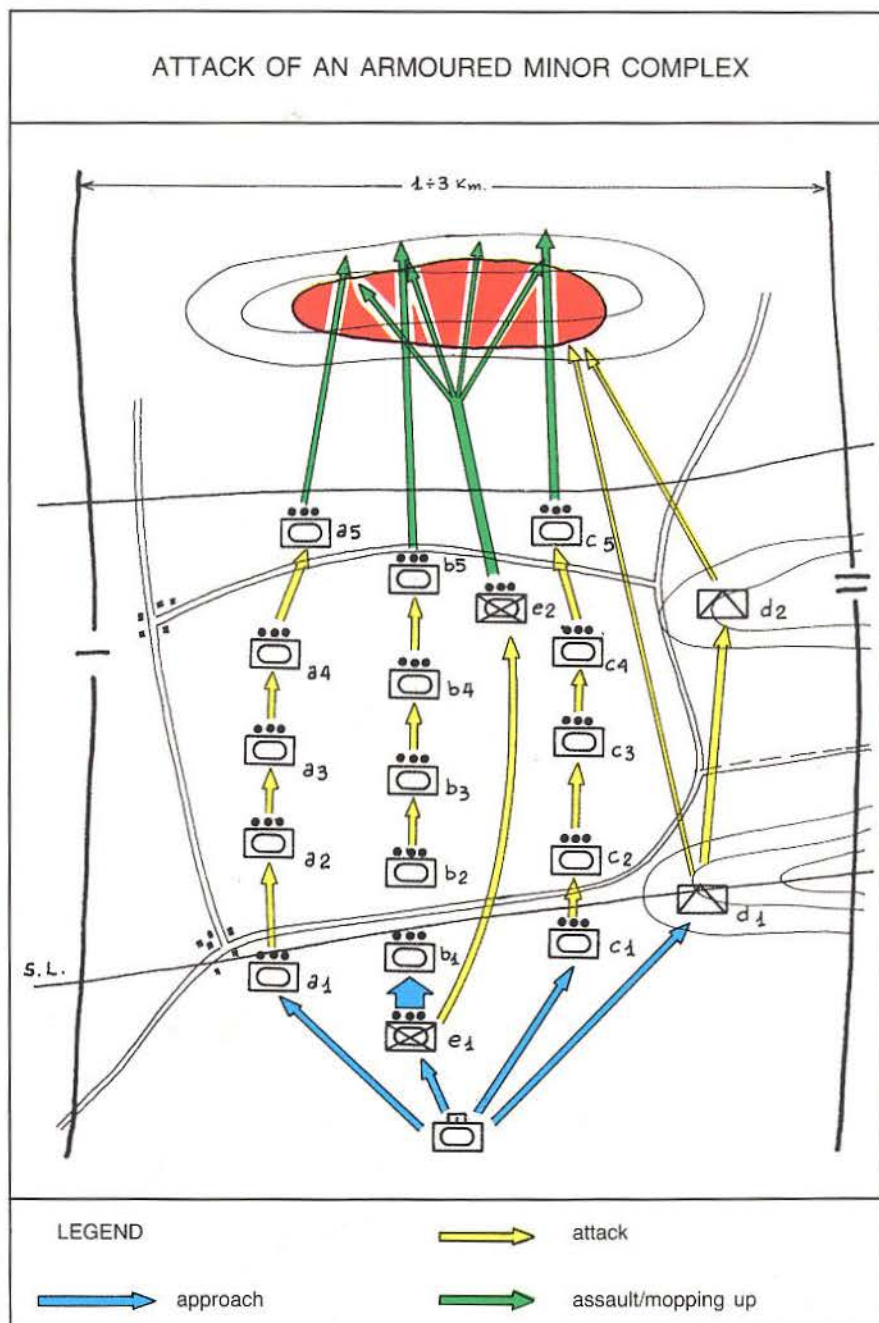
The Commander of the minor complex, on the basis of orders received, conceives the manoeuvre in terms of the following:

- avenues of approach;
- positions to be used for firing actions;
- time of action;
- initial gravitation of forces and fire;
- employment of support.

artillery fire and by the close fire support bases of the minor complex and the combat group.

The advanced platoons make a quick and continuous movement on their combat vehicles and reach the dismounting line. The reserve proceeds on its vehicles up to about 400-600 m from the advanced platoons.

Once the dismounting line (established a priori, or imposed by the enemy fire) is reached, the mechanized troops dismount and reach the front edge of the mined obstacle where the squads tasked with forcing it, having divided into loads their self-propelled charges, overtake the mechanized troops and provide for the opening of the corridors. At this point, individual fire, support fire, close support fire and smoke fire reach their maximum intensity.



When corridors are opened, the advanced platoons go by quickly and get ready for the assault, while the Engineers start turning corridors into passages.

The rifle squads carry out the assault and conquer the most advanced enemy positions and, once the gaps are opened, the platoon and complex fire bases, as well as the tanks, go by and take part in the last phase of the attack.

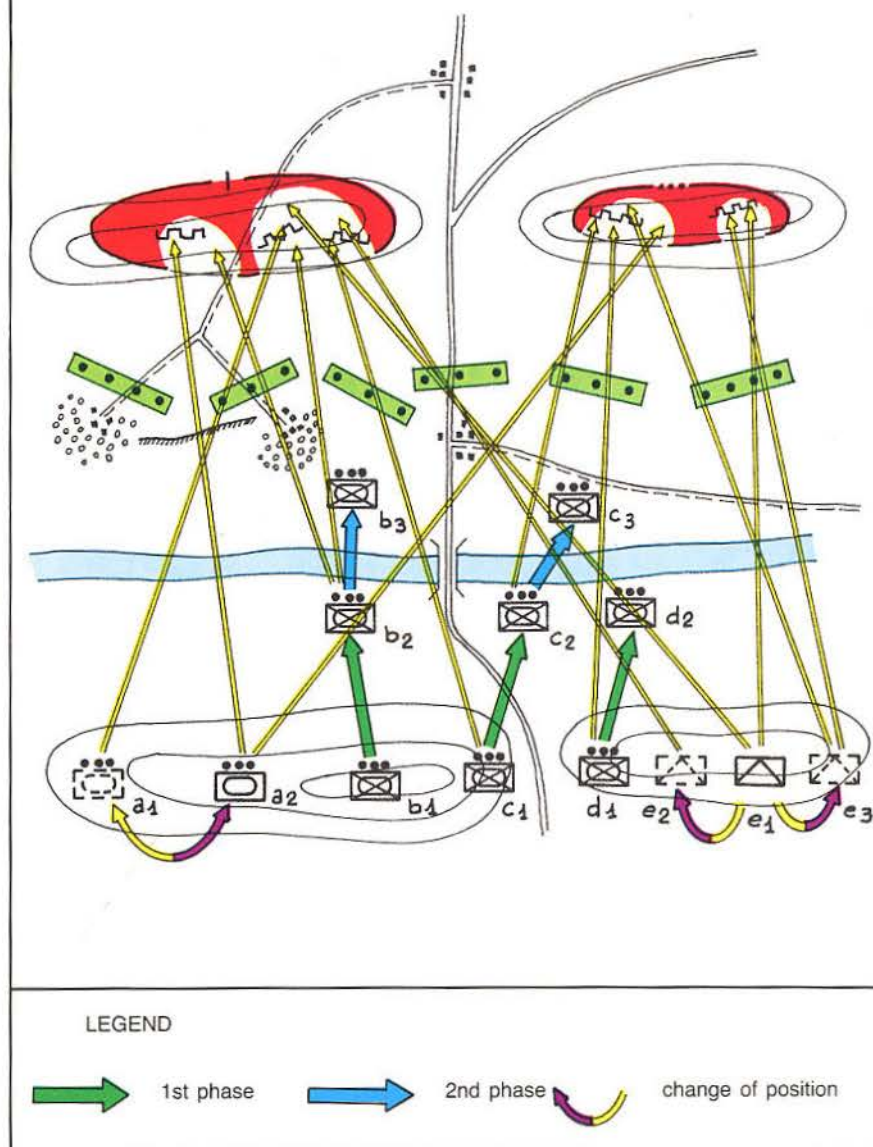
Once the objective is seized, if the minor complex

has enough offensive capacity left, it reorganizes itself and goes on to the next action. If the contrary is true, it consolidates its positions and keeps ready to oppose the likely dynamic reactions of the enemy.

THE ATTACK OF THE ARMoured MINOR COMPLEX

It is generally characterized by a marked dynamism. The area of action of the complex

THE HOLDING OPERATION



When the minor complex reaches a phase line established in advance (about 300-400 m from the forward enemy positions), the tank platoons stop the succession of fire and movement and, with a continuous and contemporary progression, storm the enemy positions employing the automatic weapons of the tanks and the main armament on particularly dangerous objectives. At the same time, artillery and mortars shift fire on the rear objectives. The mechanized platoon supports the action of the tanks and, keeping at a distance of about 100 m, protects them by firing the weapons on board and mops up the objective whilst remaining on the vehicles or, if necessary, on foot.

Once the objective is seized the minor complex reorganizes itself and, if it has enough offensive capacity left, goes on to the following action on the basis of the indications

varies from 1 km to 3 km and the formation, in the case of the homogeneous minor complex, moves with all tank platoons in an advanced position, whereas, in the case of the mixed minor complex, the mechanized units act in rear position.

THE DEVELOPMENT OF THE ACTION

The minor complex reaches and crosses the starting line

covered by artillery and by the fire delivered by the bases of the combat group. The movement towards the objective, cadenced by fire and movement of the platoons, co-ordinated by the Commander of the complex, takes place with the support of long range antitank weapons, mortars, artillery and possibly air force. The mechanized platoon, if available, follows the advanced tank platoons at about 1 km and gradually reduces the distance until the tanks start the assault.



received. If the opposite is true, it consolidates its position.

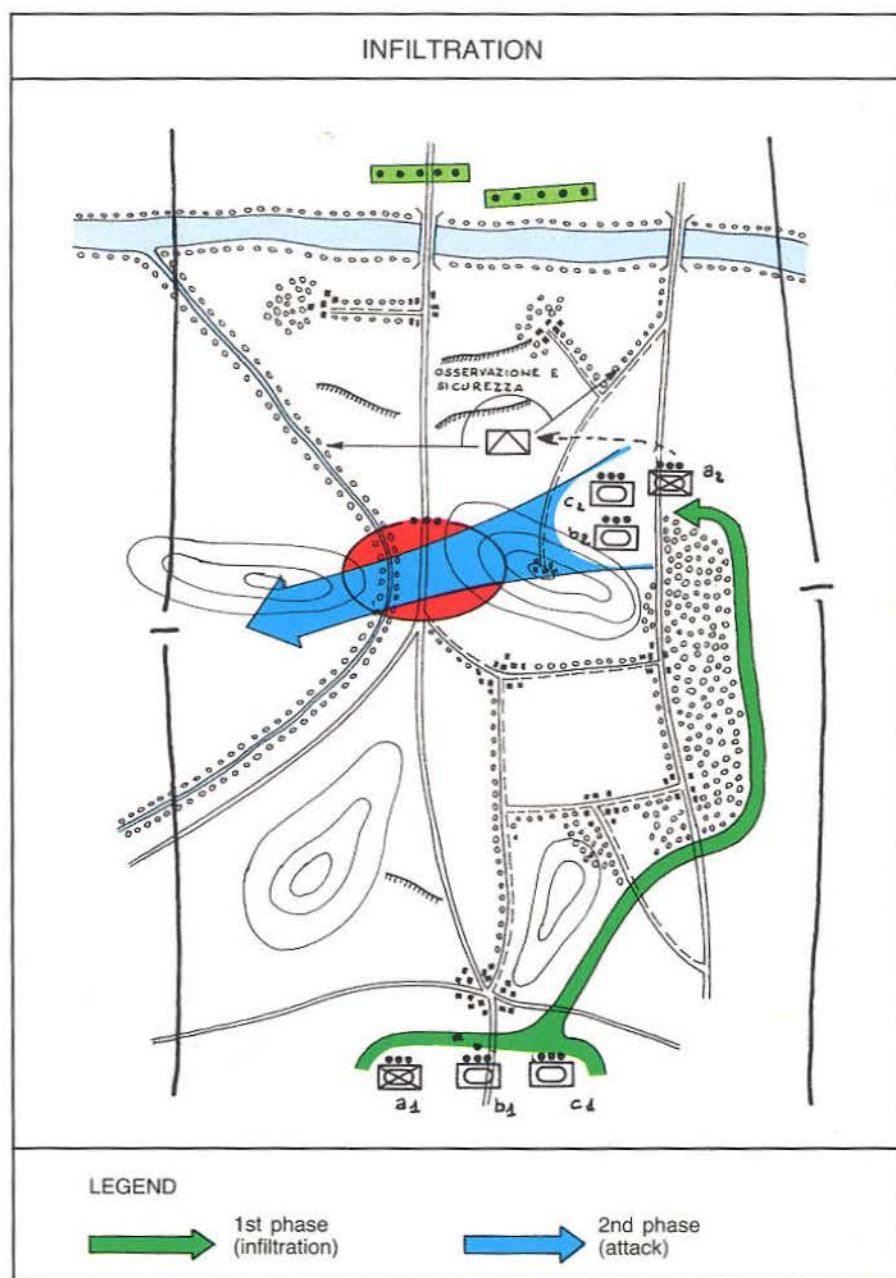
THE HOLDING OPERATION

It is the elementary tactical act by which the minor complex engages the enemy with fire, usually on the front.

It aims at limiting the enemy's freedom of manoeuvre to prevent him from interfering in the action of conterminous friendly units or to support the attack of other forces, carried out along the same direction.

This task may be entrusted to a mechanized or armoured minor complex equipped, in any case, with long or medium range antitank weapons.

The action is carried out unitarily, with a formation fit to fire at the front with most of the available weapons. It may become an actual attack when the objective is not very deep — i.e. when the action is closely combined with the



manoeuvre of other forces operating along a different direction — or a close support action when the complex forms a temporary firing base in support of the attack carried out by other units astride the same direction.

INFILTRATION

By means of this elementary tactical act, the minor complex penetrates into the empty spaces of the enemy

It is the tactical group Commander's task to conceive the action in its essential lines. This regards the following:

- avenues of approach and positions to be used;
- possible timing of the action;
- initial gravitation of forces and fire.

deployment and reaches an objective in depth by surprise. Here it either consolidates its position or attacks, on the flank

or on the rear, enemy forces held by other units.

The minor complex moves on combat vehicles and dismounts, if necessary, part of the mechanized troops to guarantee the security movement and to clarify the situation. It may make use of the fire support of artillery or mortar units, of aircraft fire or of the helicopters of the ALE and of the help of diversionary actions developed by other forces to distract, deceive or hold the enemy.

THE DEVELOPMENT OF THE ACTION

Once the location is abandoned, generally under

scarce visibility conditions, on orders of the combat group Commander and under cover of all the fire necessary to neutralize and deceive the enemy, the minor complex moves quickly and without stops towards the objective, taking all the security measures deemed necessary, at the front and on the flanks. It may stop in the staging zone to quickly reorganize and reach the assigned objective, which is the basic step for the conduct of the following tactical act.

The occupied positions are consolidated if the complex has to guarantee their possession or their use as starting points for the next attack.

THE ENCOUNTER COMBAT

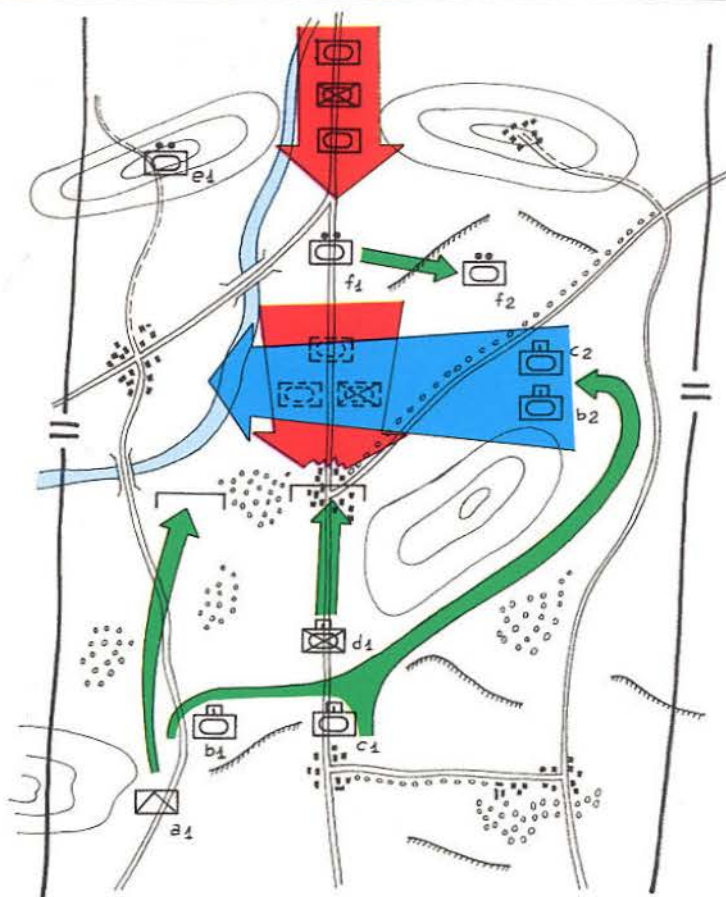
This takes place when opposing moving units reach tactical contact unexpectedly. Under these circumstances, within a relation of equal or even partly unfavourable forces, the opponent who readily imposes his initiative on the enemy is the one who generally prevails. It is thus absolutely necessary to engage the enemy forces immediately, reduce their chances of manoeuvre and forestall them on positions most convenient for the further development of the action.

Within the action of the combat group, the minor complex, whether mechanized or armoured, may have to engage the enemy with a holding operation — thus constituting the pivot of manoeuvre as regards the action carried out by the other forces of the combat group — attack the enemy previously blocked or delayed by some other complex, act as reserve for the combat group to readily face sudden needs or react by itself in all situations of isolation, even if only partial.

The timeliness of the incoming information, the development of the action at a sustained pace, clear and quick orders given by radio and the immediate implementations of the executive orders, are of the utmost importance for the outcome of the combat.

Movement must forestall the enemy on positions most favourable for the best effectiveness of the firing actions and the further development of the manoeuvre.

THE MINOR COMPLEX, WITHIN A COMBAT GROUP,
IN THE ENCOUNTER COMBAT



LEGEND



1st phase
(taking up position)



2nd phase
(attack)

THE MECHANIZED
AND ARMoured
MINOR COMPLEX



THE ARMY NCO SCHOOL

ONE HUNDRED YEARS OF HISTORY

The sight offered by the streets of Caserta is really great: huge myrtle arches interwoven with flags: it is a parade of flags, a rain of flags, a triumph of flags. The bands of Caserta, Nola, Marcianise and the band of the Cavalry Regiment have cheered the squares and the streets of the town. At 6.30 p.m. twenty powerful lamps, located between Il Corso and Via Municipio, and three floodlights have enclosed Caserta in a white sea of light: a fantastic, moving, solemn impression.

The streets of Caserta swarming with people. Bustle and enthusiasm beyond all limits — Caserta has proved to be a modern town claiming the so far always violated rights of Southern Italy.



It is the 14th of October 1888 and the passage, taken from the periodical "Il Progresso" edited by Carlo Plgnone, reports on the inauguration, attended by the Duke of Aosta, of the first "NCO School" founded at Caserta on July 1 of the same year.

The Army General Staff,

Brig. Gen. Enrico Rebagliati, first Commandant of the "Scuola dei Sottufficiali" of Caserta (1888)

aware of the importance of providing all future NCOs with a common basic preparation, instituted for them a single training school.

Caserta had the privilege to be its first home: a wing of the Royal Palace housed the school, whose command was entrusted to Brig. Gen. Enrico Rebagliati.

The "NCO School", established by a Royal Decree dated May 27, 1888, started its first course on October 1 of the same year, assembling 578

students coming from the disbanded Schools of Modena and Parma and from the various Branches of the Army.

From 1872 to 1886 the instruction of the future NCOs was entrusted to the 1st, 2nd and 3rd "NCO Training Battalions" located respectively at Maddaloni, Asti and Senigallia. From Senigallia the 3rd Battalion was transferred to Verona, where it operated until 1886.

In 1895, after only eight years, the School was closed: the increasing personnel needs of the Army, which Caserta was unable to meet, demanded that NCO training be entrusted again to the Branch Schools. This solution was adopted until 1920, when the task was handed over to the "Reserve Officer School" which in various location took charge of NCO training until 1950.

We can mention here the "Reserve Cadet Officer and NCO Schools" of Lucca (1920-1924), Modena (1921-1930), Nocera Inferiore (1930-1941), Chieti (1922-1923), Pola (1923-1926), Verona (1921-1927), Casagiove (1928-1934), Rieti (1928-1934).

After WWII a first phase of reorganization led to the constitution of the "Regular NCO School" of Spoleto in 1948 and the "Specialist NCO Schools" of Rieti and Chieti in 1951.

Finally, in 1965, the Army General Staff, with a view to ensuring non-commissioned officers a common basic instruction, decided to unify the formative cycle for all trainees and established a unified NCO School at Viterbo. The date was January 1, 1966.

In the same year, Caserta and Viterbo held a twinship ceremony before the gonfalons of Caserta and Viterbo, with the attendance of numerous authorities.

This twinship is also represented in the School's





Scuola Allievi Sottufficiali
VITERBO 31.12.1965

Scuola Allievi Ufficiali e Sottufficiali d'Artiglieria
FOLIGNO 1.6.1954-31.12.1965

Scuola Allievi Sottufficiali Specializzati
RIETI 1.1.1952-1.6.1963

Scuola Allievi Sottufficiali
SPOLETO 1.1.1951-31.12.1965

Scuola Sottufficiali di Fanteria
CASERTA 1.1.1951-31.12.1965

Scuola Allievi Sottufficiali
RIETI 1.5.1928-31.8.1934

Scuola Allievi Sottufficiali del 95° rgt. f. Scuola "Udine"
L'AQUILA 5.2.1935-31.12.1935

Scuola Allievi Ufficiali di cpl. e Allievi Sottufficiali
NOCERA INFERIORE 30.12.1929-3.2.1941

Scuola Allievi Sottufficiali
CASAGIOVE e CASERTA 1.1.1928-10.1.1934

Scuola Allievi Ufficiali e Sottufficiali
VERONA 1.1.1921-31.12.1927

Scuola Allievi Ufficiali di cpl. e Sottufficiali
POLA 5.3.1923-31.12.1926

Scuola Allievi Ufficiali e Sottufficiali
LUCCA 1.10.1920-21.6.1925

Scuola Allievi Ufficiali di cpl. e Sottufficiali
CHIETI 1.3.1922-31.12.1923

Scuola Allievi Ufficiali di cpl. e Sottufficiali
MILANO 1.1.1921-18.12.1925

Scuola Allievi Ufficiali di cpl. e Sottufficiali
MODENA 1.1.1921-31.12.1930

Scuola Allievi Sottufficiali
CASERTA 1.7.1888-30.9.1895

3° btg. d'istruzione per Sottufficiali
SENIGALLIA 1.1.1874-20.11.1880
VERONA 20.11.1880-30.11.1886

1° btg. d'istruzione per Sottufficiali
MADDALONI 1.2.1872-1.12.1886

2° btg. d'istruzione per Sottufficiali
ASTI 1.11.1872-1.12.1886

MARCO FINIZIO



Caserta



Lucca



Chieti



Rieti



Nocera Inferiore



crest, where, alongside the three-pointed flame, are the coat of arms of the two towns: the tower and cornucopia for Caserta and the lion with palm and standard for Viterbo.

THE PRESENT LOCATION

The vast compound is dedicated to the memory of CWO Soccorso Saloni who was promoted to "Battle Adjutant" for exceptional merits when he was just twenty-three years old.

Built on the western slopes of Monte La Palanzana, the School, immersed in a green environment, extends alongside the Via Cassia-Cimina, at about 2km from the centre, in a rural landscape with very few buildings.

Built according to rational standards, it spreads over an area of approximately 52 acres divided in three major sectors:

- upper sector: physical and professional training: it takes up 45% of the entire area;
- central sector: head offices and housing: it occupies 25% of the area;
- lower sector: logistic-recreational activities: it covers the remaining 30%.

More in detail, of the 52 acres:

- 13 are taken up by roads and inner squares;
- 18 by field training areas;
- 14 by open spaces;
- 7 by buildings;

From this we can see that



Nocera Inferiore

1916. Sergeant of the 52nd "Alpi" Infantry Regiment in field uniform



these are college-style barracks, divided in functional modules, which meet the various daily needs of the citizen soldier.

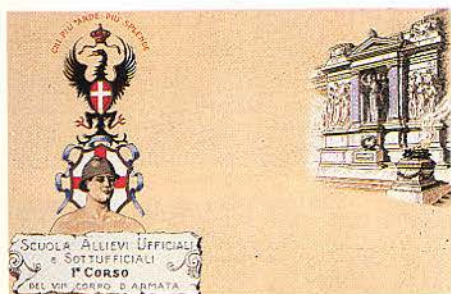
In the physical and professional training sector there are: a field for military physical and sports training, a "strip" for individual combat training, a soccer field, a gymnasium with work-out rooms, a rowing pool, a 25-meter covered swimming pool, a standard grass soccer field with tiers for 3,500 people, a standard 5-lane athletics track, volleyball, basketball and tennis fields.

As, since 1979, also the selection, physical examinations and recruitment of the NCOs-to-be have been entrusted to the School, the Institute has improved its medical structures, which now include laboratories for analyses, electrocardiography, spirometry, dentistry, ophthalmology.

In the teaching and training sector, the School has reached the capability of holding classroom lessons for 24 platoons at the same time. The sociorecreational area includes a cinema/theatre with 1050 seats, a meeting room and bar,



Viterbo



Rome



Caserta



Milan



Trieste



Nocera Inferiore



a television room, a music room and a billiard room.

THE EDUCATIONAL CURRICULUM

The course, which lasts twelve months, is preceded by the recruitment and selection of the candidates.

Recruitment is open to all Italian male citizens between 17 and 24 years of age, having the required physical and cultural qualifications.

The selection, which since 1980 has been made at the School, is based on:

- cultural preselection;
- physical examination;
- aptitudinal test;
- physical fitness test;
- interview.

The current training

curriculum of the NCOs is divided in two periods:

- the first period is spent at the Viterbo School. It lasts 12 months, at the end of which the eligible trainees are promoted sergeants;

- the second period of specialization lasts a minimum of 5 months and is spent at the Specialization Schools.

During the first period, the training is the same for all students and consists of:

- formative subjects: 51% of the time available;
- military subjects: 22% of the time;
- sports and practical activities: concern the residual 27% of the time.

During the course there are:

- evaluations on the third, seventh and twelfth month, in order to qualify to the ranks of





Lance Corporal, Corporal and Sergeant;

- progress evaluations on the sixth month, for possible changes of specialization.
- progress evaluations on the twelfth month, to ascertain the trainees' qualification for the 2nd phase of specialization.

THE TYPICAL STUDENT

Who are those who take up the NCO career today? From what region do they come from? To what social class do they belong?

Considered from the regional point of view, the first place is taken by Southern and Insular Italy, followed by the Centre and the North, with a percentage of 65%, 24% and 11% respectively.

Economic, demographic and social factors are the basic reasons of this fact.

This index of "southernization" is not peculiar to the military structure; it is a phenomenon connected with the birthrate of our country. Divided by region, the percentages show more clearly that the greatest demand is concentrated on regions with the highest birthrate vis-à-vis the national average:

- Campania: 20%;
- Puglia: 14%;
- Sicily: 14%;
- Sardinia: 5%.

The other regions, taken one by one, do not surpass 2% of the requirements, but it must be remembered that they are all regions "poor" in young people.

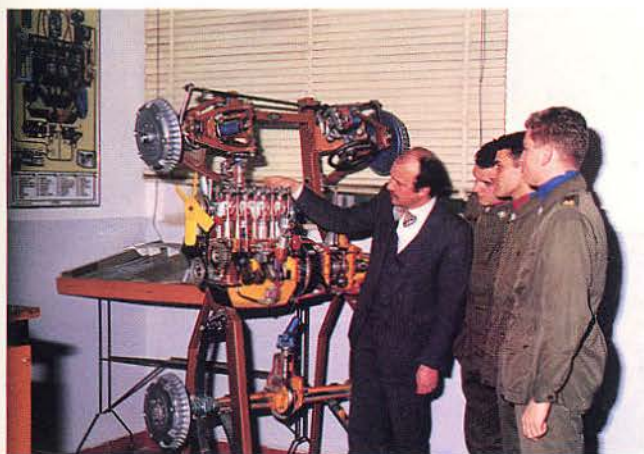
The only exception is Lombardy, which, although

"faring well" demographically, has sent only 1,9% of its young.

Also interesting is the "father's" occupation:

- workmen: 26%;
- farmers: 21%;
- white-collar workers: 17%;
- NCOs and long-term military: 6%;
- pensioners: 6%;
- orphans: 3%;
- officers: 1%;
- other professions: 18%.

Interesting aspects emerge from the analysis, the first of which is that the candidates born into military families are only 7%. The figure is significant; the low percentage seems to mean that the sons of the military do not choose their father's career, perhaps because they believe it requires too much sacrifice and is





Viterbo. The Pope's Palace



Commemorative postal cancellation



The Army Chief of Staff, Gen. Ciro Di Martino, visiting the NCO School

underpaid. The largest influx comes instead from the workers' and farmers' world, which absorbs nearly half the available spaces. This indicates that the young want to improve on their fathers' position and, on the fathers' part, a consent and perhaps an incitement in that direction, also with the intention of ensuring the sons a guaranteed salary. It is more or less the reasoning of the white-collar workers who, having noted the scarcity of positions in the public and private sectors, direct their children towards an assured post.

The sons of professionals, albeit there are not many of them, choose the military life either because they are strongly attracted to it or because of differences with their families.

The trainees are welcomed by the inhabitants of Viterbo, a town whose origins go back to 310 B.C. Already important in the Augustan times, it was a customary residence of the Popes until 1870.

Capital of the province since 1927, Viterbo has remained one of Italy's best preserved jewels, because its ancient walls still contain and preserve the works that have transformed it through the centuries.

Caserta and Viterbo together enclose one hundred years of history of the Non-commissioned Officers of our Army.



Commemorative medal



Special figurative cancellation

THE ARTILLERY SCHOOL



ONE HUNDRED YEARS OF HISTORY

This year the Artillery School celebrates the centennial of its constitution; a century of history rich in traditions, events and a technological developments the end of which cannot yet be foretold.

One hundred years devoted by the School to constant research and experimentation of new means which are often among the best at international level. Before illustrating the "School today", as a reality working in the present and for the future, let us retrace the most important events of the past, starting from its origins.

THE ORIGINS

The scientific progress which marked the 18th century promoted deep innovations in every field of human activity, including the military.

The Artillery, an eminently technical corps, was affected more than the other Arms by what historians defined as the industrial revolution of the 19th century. Suffice it to mention the progress made in the mass production of perfected guns, high-standard alloys and high explosives. Some of the achievements of science concern the development of Artillery more directly: the so-called "smokeless powders", as a matter of fact, remarkably affected the ballistic factors

while the new aiming devices made possible the use of more appropriate firing systems. But scientific development was not the only element which prodded the Italian Artillery towards more modern forms. The security requirements of a united nation, such as Italy had become after 1861, entailed an increase in size, while the multifarious needs of the diverse operational theatres — different from the viewpoint of morphology and width — led inevitably to the creation of new specialities within the Corps.

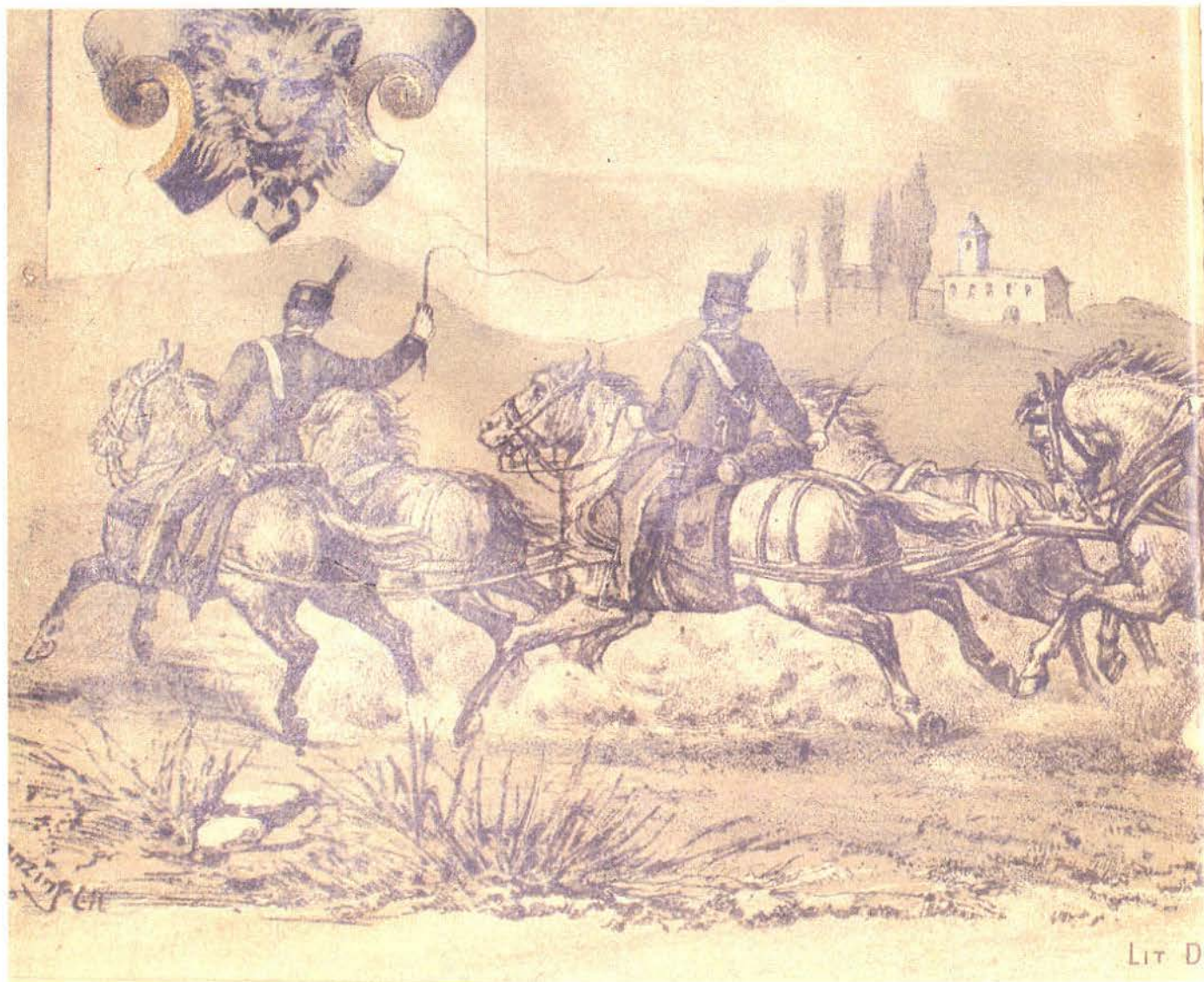
Therefore, in 1877, field, mountain, horse and siege/fortress regiments were constituted.

It became then clear that

an adequate impulse should urgently be given to the professional instruction of the Cadres and that training should be given a unitary direction, backed by application provisions suited to the characteristics of the new weapons.

These were, among others, the reasons that imposed the first School of Artillery, established at Nettuno on July 1, 1888 (Royal Decree no. 131 of June 24, 1888) with the denomination of "Scuola Centrale di Tiro di Artiglieria", and the following organization:

- Commandant, Inspector of Experiments;
- Deputy Commandant (Colonel);
- 2 senior Officers;
- 2 Captains;



- 2 Lieutenants;
- civilian personnel for the administration (accountants and clerks);
- troops, assigned according to requirements.

A successive R.D. defined the purpose and tasks of the School, which can be summarized as follows:

- to acquaint Artillery Officers and NCOs with the ballistic characteristics of the guns in service, familiarizing them with the employment of gunnery tables by applying all the data to practical instances, and train them to employ the guns in the most diverse contingencies;
- make the practical application of the Regulations on gunnery and fire conduct

uniform at all Regiments, experiment in practice the innovations that might be proposed by the Regulations and formulate the relevant methods of application with definitive accuracy.

But the growing mobility of medium-calibre artillery and the introduction of "fire preparation" (valid on any type of terrain), suggested for these guns, which until then had operated from fixed emplacements, a more flexible employment.

It was considered to employ fortress artillery, which had become more mobile, in support of the Major Units and therefore the first training course on fortress and siege artillery firing was held in 1894,

at the Bracciano range, for the officers of the Speciality.

The fortress artillery, a speciality characterized by an essentially static employment, underwent the most radical changes.

The advent of the internal-combustion engine offered in fact the possibility to do away with the immobility which had limited the performance of the artillery, giving it a capability of movement which suggested a more manoeuvred employment.

THE BRACCIANO SCHOOL

In order to meet the obligations that the renovation entailed, the "Central School of Fortress Artillery" was founded



at Bracciano on October 1, 1910 (Royal Decree no. 328 of August 9, 1910).

The choice of Bracciano for the new quarters was due also to the presence in the area, already since 1894, of a shooting range.

Moreover, the activity of the Central School of Nettuno was intended chiefly for the field, mountain and horse specialities, so that it was natural to split the course and carry out in the new location those pertaining to fortress artillery.

The two Schools proceeded along their paths taking an interest also in the field of experiences regarding new materials and aiming devices, and became the natural forums of conferences and debates, sources of teachings and proposals of new ideas and concepts extremely useful for the evergrowing development of the Corps.

The School's teaching supplied the Cadres with unity of doctrine, sound professional preparation and the prompt and easy capability to apply the firing rules in the most different tactical situations and terrains.

The value of the work done at the Schools was confirmed in the 1915-1918 conflict, where the aptitude to a rapid application of fire to concrete instances became a working reality.

THE FIRST WORLD CONFLICT

During the war period the Schools lost their didactic function: only at Bracciano a training Battalion was constituted to prepare the personnel assigned to the specialist units, while at Nettuno the need to strengthen and rapidly modernize the Artillery demanded the establishment at the Central School of a special "Experiment Section" with experimental and testing tasks for guns and munitions.

The training of personnel took place at the depots

located in the areas behind the front. Among these we should mention the Spilimbergo depot, which took on the characteristics and denomination of "Gunnery School".

But the real training of the Cadres occurred chiefly on that difficult testing ground which is war, where the Italian artillerymen, with valour and skill, contributed memorable pages to the Corps' history.

The first world war had caused deep transformations in the military doctrines. The



The first Coat of Arms of the Artillery School.

adoption of new systems in transportation, communications, munitions (with the appearance of chemical weapons) and in the defensive organization turned the employment of the Corps in a direction different from that prevailing before the war. Moreover, the officers' situation appeared extremely heterogeneous: some came from non-completed prewar courses, other from rush courses held during the conflict, others still came from the reserve and were commissioned as regular officers. These

problems, concerning all Corps, had to be tackled and solved with a unitary vision.

BETWEEN THE TWO WARS (1919-1939)

In order to unify the "Tactical Concept" (circ. no. 139 G.M. of 1920), tactical Central Schools were established in the Bracciano area: Infantry at Oriolo, Artillery at Bracciano, Engineers at Manziana, while the same decree ordered the abolition of the Central Schools of field and fortress Artillery.

The new one-month courses started in 1921; subsequently, there was a period of intense contacts among the various Schools, with exchanges of studies and experiences.

An Artillery officer attended the tactical exercises of the Infantry and vice versa, in a spirit of cooperation aimed at acquiring an interdisciplinary knowledge of the various procedures of employment, for a more precise and profitable conduct of the battle.

At Nettuno, in 1921, the Experiment Section, which had been considerably strengthened, during the conflict became an autonomous body, establishing itself first as "Directorate of Artillery Experiments" and later, in 1927, as "Centre of Artillery Experiments".

In 1985, in order to achieve, through closer relations, that mutual acquaintance which ensures a real cooperation among the various Branches, all the Central Schools were transferred to Civitavecchia. Thus a high-level military centre was constituted, which purposed to give to all Cadres of the Army a comprehensive and updated view of the operational progress.

The activity of the Central School of Artillery had an eminently practical approach, as was also the case for the other Schools: the students specialized in the exercise of

command through the constant contact with units at full strength.

The courses were in fact chiefly organized for the Officers who were about to be appointed battalion or regiment commanders.

As a rule, the course pattern was the following:

- a first period, in common, necessary to give a comprehensive and general view of the employment of the units of the various Branches according to the norms of the doctrine in force;

- a second period, at the respective Branch Schools, where the officers widened their knowledge of the characteristics and technique of their Arm;

- a third period, again in common, which, through practical exercises and manoeuvres with the Cadres, ensured the acquisition of the operational concepts of interarm cooperation.

The School did not have



Colonel, Commander of the Horse Regiment, in full dress.



SCUOLA CENTRALE DI TIRO D'ARTIGLIERIA DA CAMPAGNA

units of its own. For the exercises, it could avail itself of the regiments of the "Torino" Division stationed at Civitavecchia; battalion and batteries of non-divisional specialities were regularly attached to the School.

The Central School of Artillery at Civitavecchia, concentrating more and more on the employment in cooperation with the other Arms, had left a void as regarded the technical training proper, i.e. the training that, especially in the lower ranks, is still an indispensable element for an effective fire.

Also the Artillery Inspectorate, in connection with the studies that it was pursuing, felt that it would be suitable to have the continuous and exclusive availability of a range suitable for the various experiments. Hence the idea to reactivate the old installations of Nettuno, which met the requirements and in 1923 had started again to function as a School, even if its activity was limited to the brand-new antiaircraft speciality.

Thus, starting on October 13, 1927, the units of Nettuno took on the denomination of "Gunnery School" directly under the Artillery Inspectorate, while the Central School of Civitavecchia was subordinate to the General Staff, also owing to their different, though

complementary, objectives.

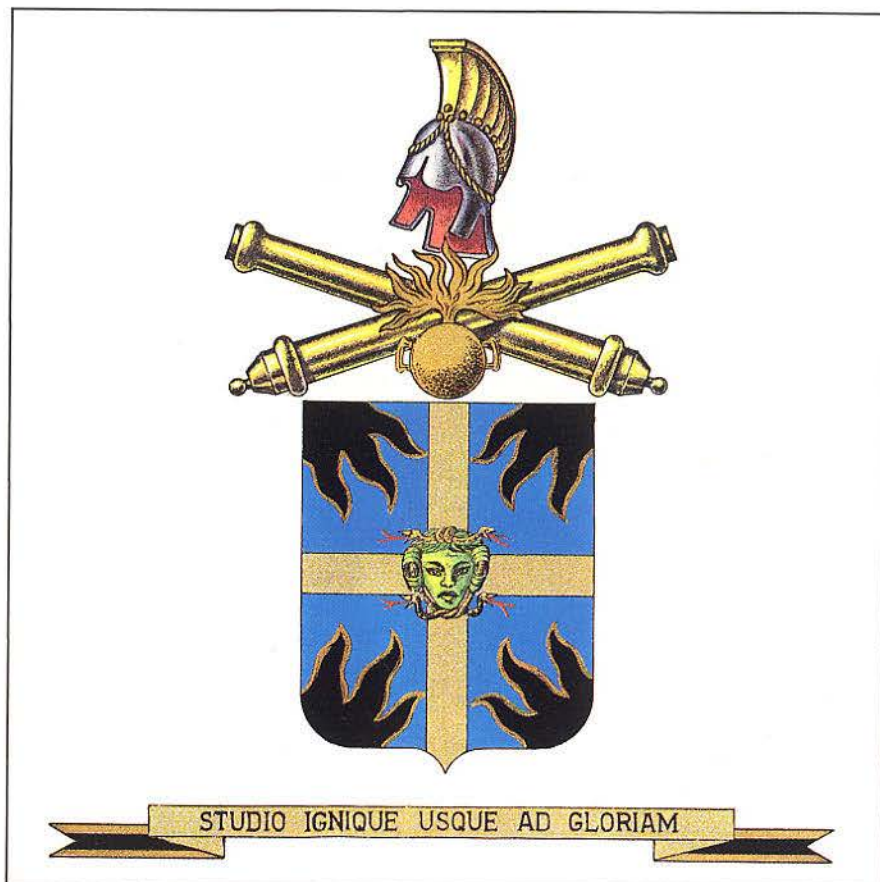
But the eminently technical component of the antiaircraft speciality increasingly differentiated its problems and training from those of the traditional Artillery. Therefore, it became necessary to give an autonomous organization to this sector, with the realization of a specific School located at Sabaudia.

Functional requirements connected with training, led to the establishment of a "Coast Artillery Training Centre" at Terracina, for training Cadres of all ranks.

The Specialist Training Battalion, which was constituted at Bracciano during the war and had remained in the old quarters after the Central School was transferred to Civitavecchia, in the same year became a detachment of the Gunnery School of Nettuno, and was finally incorporated by it in 1933.

Bracciano was entrusted with secondary tasks, mostly connected with the use of the shooting range. For its training requirements the School had at its disposal ten batteries from various regiments. Thus organized, the Gunnery School developed its manifold tasks according to the directives of the Inspectorate, which regulated its activity.

Technical training took of course the first place: new



The Coat of Arms of the Artillery School after the Second World War.

materials were tested; remarkable contributions were given to the solution of problems regarding the preparation of fire and the organization of surveillance; structures were determined and equipment tested; instructions and circulars were worked out to regulate the employment of materials and the conduct of fire.

THE SECOND WORLD CONFLICT

The formative work done in the interval between the two wars by the Central School of Civitavecchia, the Gunnery School of Nettuno, the Antiaircraft School of Sabaudia and the Coast Artillery Training Centre of Terracina was put to a hard and severe test.

On extremely varied terrains, in the most diverse

weather and environment conditions, the Artillery distinguished itself for its skill, writing glorious albeit not always fortunate pages.

During the conflict the activity of the Gunnery School of Nettuno underwent a considerable increase, especially in order to receive and retrain the large number of reservists which were to form or complete the units.

The engagement of the School materialized also in the adaptation of concepts, procedures and materials to the ever changing reality determined by the more and more modern battle means which the belligerents profusely threw into the conflict.

In the difficult war contingencies, among the difficulties caused by the vast amount of work and scarcity of resources, the Schools carried out an effective and highly commendable activity for the units engaged on the various operational fronts.

The armistice of September

8, 1943 found the Schools hard at work.

In 1944 the Central School of Artillery at Nettuno was stormed by the Allied landing, which practically destroyed the Experiment Centre.

At the end of the war the Centre remained at Nettuno and was strengthened with the incorporation of the Infantry Experience Centre of Santa Severa, which became the 5th Experience Section.

FROM THE POSTWAR PERIOD TO THE PRESENT

Sadly the gloomy days that followed the armistice did not spare the Schools, which were forced to give up all activity.

But the reconstruction did not take a long time coming: On January 27, 1945, the 152th Artillery Regiment (attached to the "Piceno" Combat Group operating side by side with the Allies) taking the denomination of 152th "Piceno" Artillery Regiment, moved on to Bracciano and was organized as follows:

- Headquarters;
- School and Artillery Reserve Battalion;
- School and Engineer Reserve Battalion;
- one battalion of mixed reserves.

On April 10, 1945 the 152th "Piceno" Artillery Regiment took on the denomination of "Artillery Training Regiment".

Two days later the Engineer Reserve Battalion split from the School and became the "Engineer Training Regiment".

On January 15, 1946 the "Artillery Training Regiment", having taken the denomination of "Artillery School", subordinate to the Command of Central Military Schools, took upon itself the tasks of the Nettuno School and of the Artillery School of Civitavecchia, which existed before the war events of 1940-1945.

At technical and organizational level the complete transformation of materials, fire and employment

procedures required an onerous work in order to adapt equipment and procedure of the Italian Artillery to those of the Allied armies.

First of all we had to form the instructor Cadres, starting point for the realization of the structure, and then form and retrain the Artillery Cadres (who were to spread their knowledge throughout the units), unify their training and increase their operational efficiency.

Courses were thus started at every level: from conscript personnel to battery and battalion Commanders as well as gunnery officers. In 1946, the School for Artillery Mechanics of Civitavecchia was absorbed by the Artillery School of Bracciano, of which it became a detachment. Later on, also the training troop units were transferred to Civitavecchia, where a new body was established, also subordinate to the School, with the name of "Recruit Advanced Training Centre", which became autonomous in 1947.

The Command of Central Military Schools of Civitavecchia was disbanded in 1947 and the School passed under the direct responsibility of the Artillery Inspectorate.

In 1948 the first battery of Reserve Cadet Officers was constituted and soon transformed into a battalion, due to the necessity to increase the personnel.

Thus the School also undertook to form the Reserve Cadres for all the Artillery specialities. In June 1948 the antiaircraft units of Civitavecchia, Bracciano and Sabaudia broke away from the Artillery School and constituted the Antiaircraft Artillery School, located at Sabaudia.

In order to fulfill with modern means the needs of fire observation and wide-range survey of the deployment areas, in 1951 a "Light Aviation Unit for the Artillery" was established at the School.

This marked the birth of a new speciality of the Italian Army.



With the increase of tasks and personnel the initial unit took on the denomination of "Army Aviation Unit".

This new unit remained at Bracciano until 1958, when it was transferred to Viterbo and became autonomous.

The sizeable number of cadet officers made it necessary to decentralize the courses to some other location.

The School for Reserve Cadet Officers and NCOs was set up at Foligno in 1954. The School did not include the self-propelled speciality and the Artillery specialists, who remained at Bracciano.

The courses at Bracciano were developed along different lines, some with periodical frequency, others instead had a contingent character and were organized according to the Regiments' requirements. Among the first we mention the informative course for Captains due for promotion, which later became an evaluation course according to a formula similar to the one adopted by the

155mm towed howitzer.

Civitavecchia Central School in the years before the second world war.

In 1956 the Command of all land Artillery Schools was given to a General, who was assisted by a Colonel second-in-command, a Colonel Director of Courses and a Colonel Commandant of the Artillery Cadet Officers and NCO School. The Colonel second-in-command supervised the logistic and administrative organization of the School and acted as Commander of the demonstration units.

The Colonel Director of Courses presided over the teaching organization availing himself of the activity of some "divisions".

The one-year "Technical-Applicative" courses started in 1956, with the purpose of giving to the young officers, before they joined the regiments, the possibility to put into practice the notions acquired at the

Academy and at the Application School.

The experimental activity was given a prevalently tactical orientation. Thus, exercises were conducted for the opening of corridors in minefields with the employment of artillery and for the close defence of deployments.

In 1958, the strength of School consisted of 2000 elements, which included officers, NCOs, enlisted men and civilians. Furthermore, it had 50 horses, 150 wheeled and self-propelled guns of the most varied calibres, 350 combat and regular vehicles and some light aircraft.

At the beginning of 1964, the School was reorganized with a structure that, under the orders of the commanding General, envisaged a Chief of Staff, as coordinator of the disciplinary and logistic activities of the entire school.

The Chief of Staff was assisted by a Secretariat and Personnel Office, whose activity concerned both the Cadres and the personnel attending the courses, a Logistic Office, in charge of programmes, plans and coordination in the logistic sector, and a Training and Studies Office, which planned and coordinated the training activities of the dependent Schools and organized the research and experiences in the various sectors related to land artillery, usually upon directives issued by the Artillery Inspectorate.

The Office of the second-in-command supervised the logistic and administrative activities of the Artillery School, coordinating and controlling the operation of all services.

The training itself was carried out within four "Course Divisions".

The first took care of the courses for captains due for promotion.

The second Division was charged with the courses for Reserve Cadet Officers and NCOs, and for squad leaders of the self-propelled and missile specialities. The latter were

detached from the Foligno School, where the training courses for Officers and NCOs, and for squad leaders of the self-propelled and missile specialities. The latter were detached from the Foligno School, where the training courses for Officers and NCOs of the reserve were held, owing to the greater possibilities given to the armoured vehicles by the training grounds of Bracciano.

The third Course Division included all the operational units of the School (i.e. the 1st Battalion of the 13th Field Artillery Regiment and the Army Corps 8th Self-propelled Artillery Battalion) as well as the Light Aircraft Section and some batteries for the non-divisional specialities. Besides training its personnel, this section provided units and means for blank — and live — fire training of the students, for the conduct of demonstration and cooperation exercises and for experiences.

The third Course Division, moreover, organized the Technical Applicative Course as well as courses for personnel of every rank recalled from the reserve.

The fourth Division, detached at Civitavecchia, included also a demonstration battery of specialists and took care of the training, at every level, of the personnel assigned to the specialist units. The Officer and NCO School of Foligno was entrusted with training Reserve Officers, Reserve NCOs and Squad leaders of the field, heavy-field, heavy-towed and mountain specialities.

THE SCHOOL TODAY ORGANIZATION

The School of Artillery currently consists of:

- General Staff;
- Administration Service, for the financial management of what is required to run the units;
- two Reserve Cadet Officers Battalions for self-propelled and towed artillery;

- one Artillery Battalion formed by conscript personnel, with operational and demonstrative tasks (1st "Cacciatori delle Alpi" Artillery Battalion);

- one Specialists Battalion tasked with training the personnel of all the artillery specialists units and assistance in the executive activity of the recently established sector for experimentation of specialistic materials and technical means;

- one Command and Services Unit for logistic support.

The Staff, directly subordinate to the Commander, is headed by a Chief of Staff and divided into branches corresponding to the main fields of activity: personnel, information, training, logistics.

The Reserve Cadet Officers Battalion for the self-propelled Artillery provides the student officers with a basic formation on M109G 155mm self-propelled howitzers, M110A2 203mm self-propelled howitzers and on LANCE missiles.

This battalion consists also of cadet NCOs, who, coming from the NCO School of Viterbo, attend a course of about eight months, some as Commanders of minor units and some as artillery specialists.

The second Reserve Cadet Officers Battalion provides a basic instruction to the officers who will be assigned to towed-artillery units, on 105mm, 155mm, 203mm and FH-70 155mm howitzers.

The two Cadet Battalion also take care of the training of the future Officers who will have to coordinate the radio and telephone communications of the Artillery Battalions.

The men of the 1st "Cacciatori delle Alpi" Artillery Battalion wear a red tie, symbol of the glorious Garibaldian tradition of the "Cacciatori delle Alpi" Regiments.

The battalion operates 155mm towed and self-propelled howitzers and FH-70 155 mm howitzers; moreover, it has already constituted an experimental battery (FIROS, MLRS, FIELDGUARD).

TASKS

The essential tasks of the School are:

- ensure that the Cadres of the Artillery maintain a high standard of culture;
- produce new knowledge;
- make experiments and studies on every type of device

In addition to this, the School carries out its training activity through instruction, specialization, qualification, retraining and refresher courses organized for Officers, NCOs, Reserve Cadet Officers, regular NCOs and highly specialized corporals and enlisted men.

The School is also entrusted with the specific training of the Academy Cadet Officers, the second Lieutenants of the Application School and the "Arm characterization" of the Officers attending the General Staff Courses.

The need to train cadets and other students on often specific disciplines and on technical and fire equipment, which becomes more and more complicated due to the development of the emerging technologies, clashes with the short time available for the courses. Hence the necessity to proceed with programmes in which the theoretical notions are immediately verified through many practical exercises and activities.

The Artillery School with its training activity has two essential objectives: instruction and selection. The criteria of instruction are to promote knowledge and familiarity with the elements of professional specialization, combining theoretic data and practical exercises.

The necessity and the moral obligation to entrust the responsibility of commanding men to professionally well prepared reserve officers — who should have good moral and character qualities, ability as organizers, sense of duty, responsibility and discipline — demands a careful selection, made by evaluating their knowledge with objective

progress tests, practical tests and oral examinations.

Consequently, the cadets who fail to show a sound preparation and serious principles are dismissed from the course.

The School is also charged with studies and experimentations as regards the technical-tactical procedures and the Artillery equipment. This is, as is the case for the other schools as well, its most important albeit perhaps less conspicuous function.

In order to effectively carry out this process within the courses which have been and will be scheduled and carried out at national level, the following infrastructure and equipment have been prepared:

- a room equipped with a computer-operated Master Gunner simulator, for fire-observation/control training;

- two language laboratories with a video-section for automated lessons. The School in fact holds basic, advanced and technical professional



One of the computer-equipped classrooms.

English courses for the Cadres of the School itself and for officers and NCOs of the whole Arm, as well as for the civilian staff coming from various branches of the Defence Administration;

- an electronic trainer for a didactic radar, used for training radar operators to target survey and acquisition;

- several multirole classrooms (about 120 computer units) where each study group is trained with the employment of actual "didactic systems". Here the presence of a computer is of considerable importance in order to give the Cadres an adequate preparation for the new requirements and, at the same time, offer them the opportunity of a remarkable knowledge of data-processing in view of the acquisition of general systems.

Moreover, all the specialized classrooms can be used by Cadets and other



One of the language laboratories of the School.

trainees also during the hours of free study, in order to permit personal recapitulations and research. The School organizes also data-processing courses for servicemen about to be discharged.

We are talking about highly flexible systems which can expand and deepen any experience beyond the limits of time and space fixed by the length of a lesson and the walls of a classroom, by providing substitute experiences where the real ones are unfeasible, too complicated or too expensive.

In addition to this, their employment, besides notably increasing the intrinsic effectiveness of training, permits to spread through the whole Arm, the ability to operate a computer.

The various teaching systems are also employed to develop the subjects included in the courses of General

Professional Instruction for NCOs, in the Arm courses for the student sergeants coming from the Viterbo School, as well as for the Reserve Officer Courses.

Starting from next year, the same will be done for the technical-practical courses for officers coming from the Application School.

An absolute innovation is the constitution at the Artillery School of a "Centre of Data Processing and Operational Research". This is a long-pursued objective, finally attained by the Artillery Inspectorate.

The Centre's task is to produce a permanent instrument for the analysis and evaluation of operational research, characterized by "open" software, fit to be eventually employed for any kind of appraisal of the performance and cost/effectiveness in the sectors of employment of the Army Corps artillery system, both land and anti-aircraft.

This instrument will also

permit to make complex simulations for training personnel of all ranks assigned to the operational control of Commands at all levels and trained for the functional employment of automated command posts.

The Centre is manned by a selected team of Officers, experts in the technical sector and in the employment of artillery, and by highly specialized civilian personnel with proven experience at international level in the sectors of simulation and operational research. For tests and experiments on the software produced, the Centre uses a "host" computer with a number of interactive terminals.

In short, it is an advanced project which will further qualify the School at the topmost qualitative levels.

THE SCHOOL TOMORROW

The present organization and tasks of the School have their point of reference in what has been defined as **land artillery system**. A system which is employed and is in full progress within the entire Arm and which is headed towards a natural future characterized by global automation and the most advanced and sophisticated technological components, where electronics, in general, and computers in particular are going to have a determinant role and significant dimensions.

It is, for the land artillery and therefore for the School, a short, medium and long-term future, which involves all the fundamental sectors and, in particular, the various components of the **artillery system**: target acquisition, weapons and munitions, technical support, fire command and control and logistic support.

The acquisition of targets and the surveillance of the battlefield, organized in a specific subsystem called SORAO, will be pursued by means of:



Firing exercise with a M110A2 203mm self-propelled gun

- medium-and long-range (up to 150km) flying craft (Drones and RPV) equipped with diversified visual sensors capable of transmitting the acquired data in real time. The missions can be programmed for actual acquisition of targets, conduct of fire adjustment and control of effective fire;

- medium-and long-range (up to 50km) radars for target acquisition and fire control, operating on land or on aerial platforms;

- counterfire radars (up to approx. 30km);

- computerized phonotelemetric systems;

- light intensifier and infrared instrumental laser sensors (up to approx. 10km). With these devices, it will be possible to have an all-weather, day-and-night **continuous** surveillance up to 30km and a discontinuous programmed surveillance up to 150km.

As regards fire-delivery means we already have at our disposal, or we are going to acquire soon, modern materials of increased range (above 30km), suitable for integration

with the general automated system, such as MLRS, FIROS, FH-70, M109L, M110A2, SP-2000.

In the sector of **Technical Support** the units will be automated in their tactical and technical functions and — a revolutionary event — for the solution of the ballistic problem and the adjustment of fire they will avail themselves of radars — such as "Fieldguard", already being tested at the School — capable of detecting the trajectory of the trial rounds.

The management of data and the fire command and control activities will be carried out with the employment of computers capable also of governing the automatic transmission in digital form.

The technical support for producing topographical grids, necessary for the immediate and constant development of a complete fire manoeuvre at Corps level, will be ensured by advanced materials: inertial navigators, depending or not on the employment of artificial satellites, complemented by

laser telegoniometers and automatica gyroscopic pointers also already in use or experimented at the School.

A similar automation is going to govern the aerological technical support for the electronic survey of the atmosphere.

Also the sector of ammunition is undergoing a great evolution. It is perhaps the most important novelty in the entire artillery system, owing to the exceptional increase in its precision and effectiveness on the various types of targets and especially on the armoured vehicles, with the possibility to give shape to an actual **indirect-fire antitank action** conducted from very long distances.

Precision and effectiveness, which are pursued with both traditional ammunition and sub-munitions.

A sizable part of the study, development and realization of this future land artillery system is entrusted to the Artillery



The Firos weapon system.

School in specific relation to the experimentation of materials and bringing up to date of Cadres.

In order to be able to carry out the tasks awaiting it in the process of development planned for the Artillery, the School has started to adjust its structures and its professional preparation to the new requirements.

The present structure is adequate only as regards numbers. We have started to transform the School into an experimental structure which would include the electronic sector, with particular and specific reference to the command and control, radar and advanced-telecommunication sectors.

The 1st "Cacciatori delle Alpi" Battalion has already received advanced materials not yet in service with the units (MLRS, FIROS, FIELDGUARD) which will be positive tools for the professional advancement of

the Cadres destined to guide the modernization process of the entire Arm.

The new teaching systems have brought a complex programme of specific courses to an advanced stage. The programme extends over a three-year period and aims at eventually providing the Officers and NCOs of the Commands and operational units of the entire land artillery with a good qualification in the computer field and a constant technical-professional updating. "Useful" personnel as regards age, rank and position, in view of the employment requirements connected with the near-, medium-and long-term introduction of computerized systems in every component of the **Artillery System**.

CONCLUSION

The devotion and ability of the instructors, "revitalized" by

the teaching methods, give the Institute — together with the confidence in the future — the pride to hand over to the Army and give back to our country highly qualified elements, in the best traditions of the "Learned Arm". This hundredth year of activity is celebrated at the "magic" moment of renovation of the Institute, which precisely from its past and from its traditions derives the indispensable strength and the enthusiasm for carrying out its task, among more and more complex requirements and onerous responsibilities.

Mario Prato



Brigadier General Mario Prato has attended the Military Academy and the Application School, has been Commander of several heavy antiaircraft artillery and missile units and served at the General Staff of the Army antiaircraft Artillery Command. As a Colonel, he has been commander of the 5th HAWK Missile Artillery Regiment and of the School for Artillery Electronics Technicians. With the rank of Brigadier General, he has been Deputy commander of the Army Antiaircraft Artillery and, since October 1, 1985, Commandant of the Artillery School.

General Prato has written several operational studies on antiaircraft artillery and air defence.

MADIS

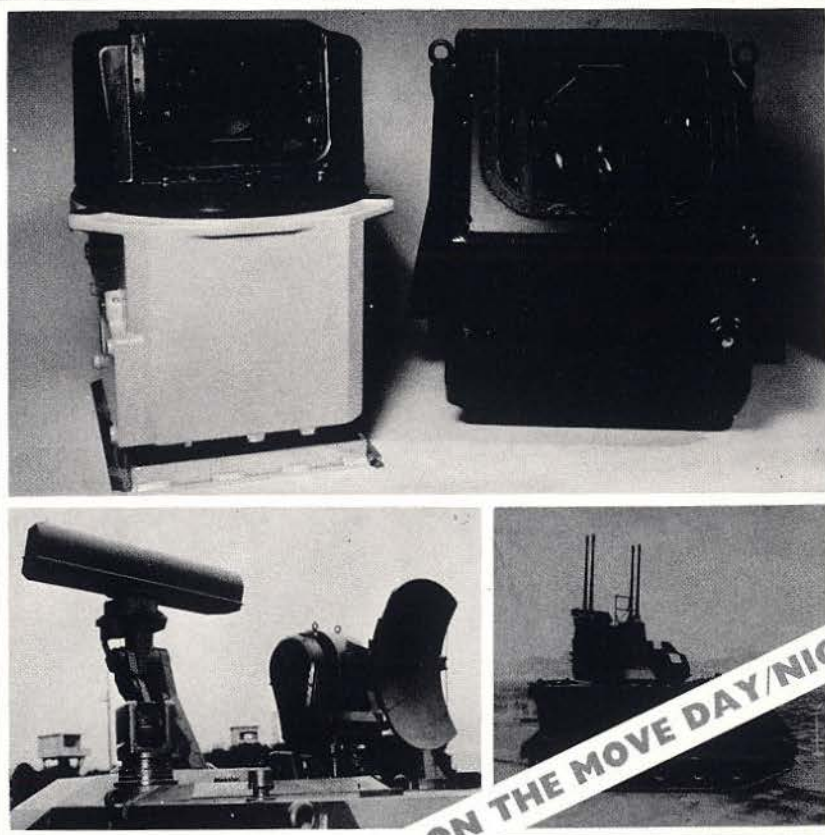
**Primarily stabilized
sighting system
for S.P. antiaircraft
guns**



**OFFICINE
GALILEO**
MILITARY SYSTEMS DIVISION
Via A. Einstein, 35
50013 CAMPI BISENZIO (FIRENZE ITALY)
Phone (055) 89501 - Telex 570126 Galile I
Telefax (055) 8950600



A Company of the
OTO MELARA - BREDA MECCANICA BRESCIANA - OFFICINE GALILEO Consortium

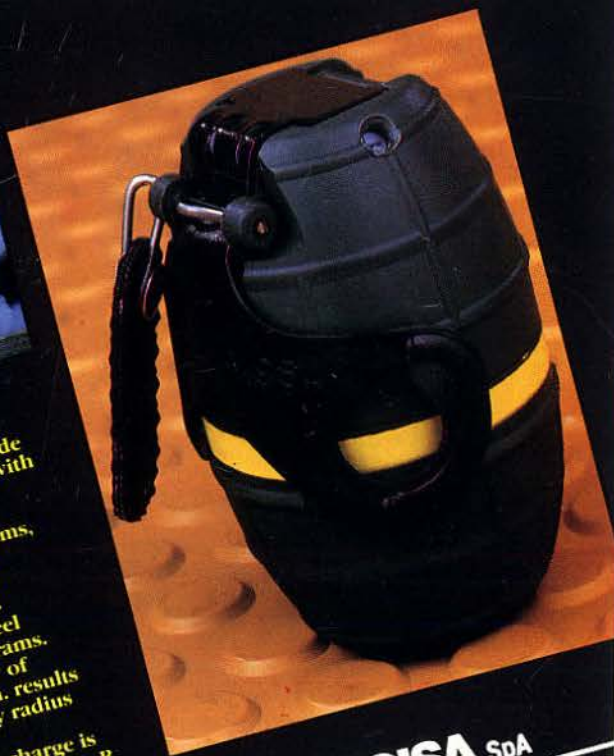


AT FIRE ON THE MOVE DAY/NIGHT

OD/82 HAND GRENADE

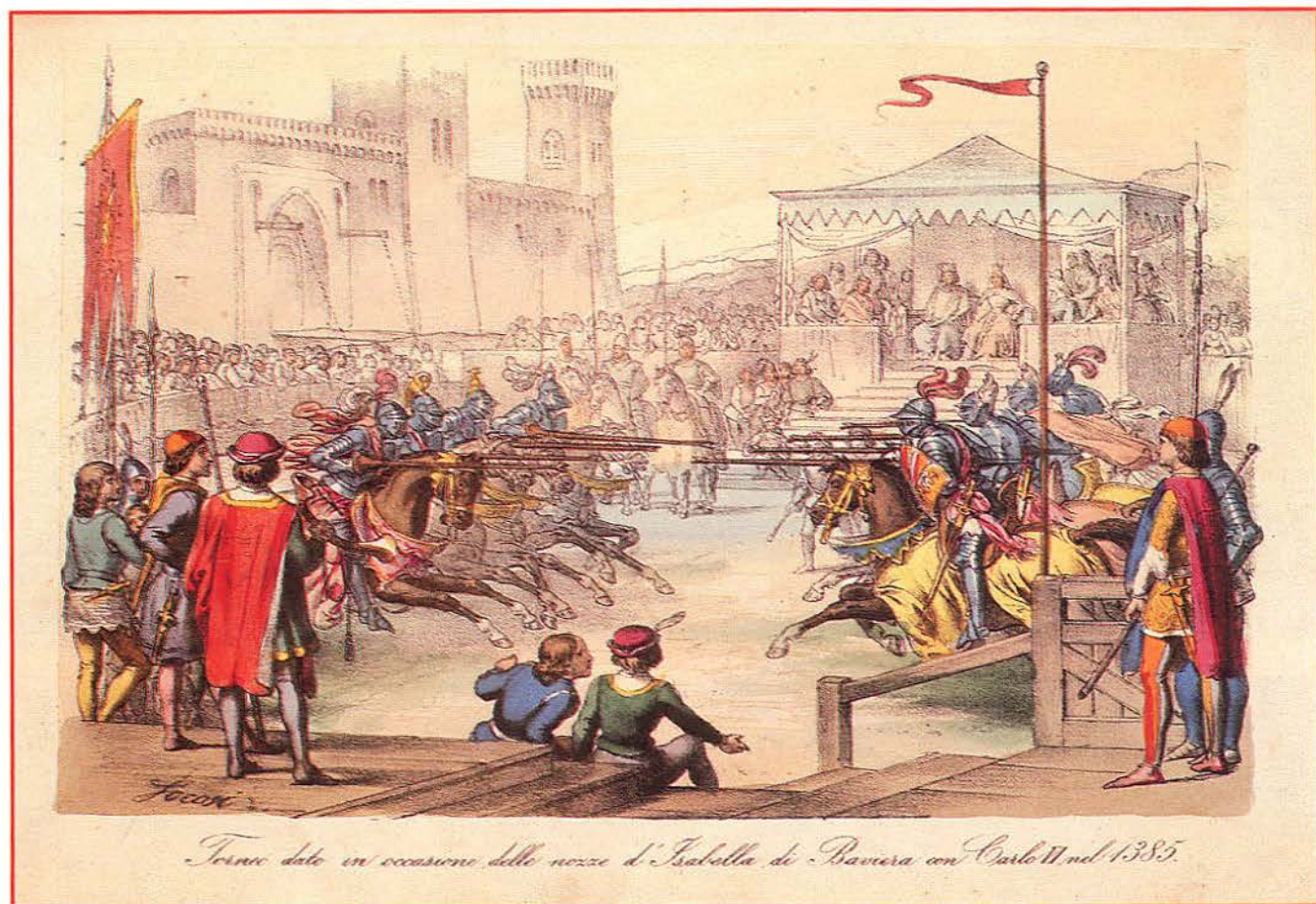


The OD/82 hand grenade is a weapon of controlled effect and of delay type (± 0.5 sec.). It may be employed both in offensive and defensive mode without adding or removing any of its components. The materials and technology employed in the manufacture of this grenade allow a constant range of efficacy and a safe distance in all operative conditions. The OD/82 hand grenade is the only hand grenade approved for service with the Italian Army. Weight of the hand grenade is 286 ± 5 grams, maximum length is 83 mm., maximum diameter is 59 mm. Total weight of steel fragments is 70 grams. Probable efficacy of fragments at 5 m. results to be 85%, safety radius is 20 m. Weight of main charge is 112 gm. of compositions B.



LA PRECISA SpA
TEANO-ITALY

PROMOTION OF THE ARMY OFFICERS, YESTERDAY, TODAY AND TOMORROW



Just when the Government, by its own legislative initiative, is about to reorder the norms regulating the promotion of Officers (1), we are faced with two important issues.

Firstly, what is it that has driven the Executive and, before it, the General Staffs to modify a law which about thirty years of application can only have tried out with severity and efficiency?

Secondly, how were Army Officers promoted before the issue of the law which we now wish to modify?

The first question brings us to make a few considerations on the present law of promotions which has been in force since 1955. It has the undoubted merit of having given a unitarian orientation to regulations which until then had differed greatly from Service to Service (2), contributing at the same time to the achievement of a gradual unification of the military legislation, which had become necessary after the three previous Administrations had been joined together under a single Ministry.

However, despite the most optimistic expectations, in the long period of its application, the law has shown its shortcomings and limits, especially as regards the correct functioning of the various categories and the regular career advancements.

In the light of the experiences made during this lapse of time, we may quite readily state that the law, though based on valid provisions and standards, has not been able to fulfil all the aims that had been set. This is chiefly due to the fact that the situation, as regards the categories and the number of personnel involved in the organization, was rather difficult right from the start, mainly because of the irregular admissions which had taken place during the war and which had not been eliminated by provisions aiming at reducing personnel.

In the long run, moreover, the temporary law proved inadequate to regulate efficiently the passage from the old to the new regulation and thus ensure the necessary stabilization within an acceptable period of time.

We must also consider the irregular trend of recruitment which prevented the steady filling of ranks, thus invalidating one of the main prerequisites for a normal functioning of the organization. This situation contributed to a series of numerous legislative amendments, many of which, unfortunately, regarded only certain specific sectors and later introduced further elements of disturbance.

Finally, the existing norms on promotion have been the cause of many inconveniences to which we wish to put an end by issuing a new law.

Generally speaking, the latter is intended to achieve a truly unified legislative body including organizational regulations on recruitment for a homogeneous filling of the ranks, new regulations on promotion aiming at eliminating existing inequalities, guaranteeing a greater certainty to careers, safeguarding the interests of the Administration and of the individual, as well as updating the rules regarding the legal status.

As regards promotion, the subject at issue, leaving the present body of norms unchanged (3), regulations have been defined which take into account gradual promotions tied to objective performances and propose to allow the majority of personnel to reach the minimum guaranteed levels while the best will be able to reach the top ranks.

To achieve the said goals, adjustments have been made to the periods of permanence in the various ranks, establishing their duration according to the number of years which best respond to the need of obtaining the best possible performance. Selective promotions have also been improved. The first selective evaluation will take place in groups of Officers who have held their rank for the same number of years, thus putting aside the present system according to which the number of Officers to be evaluated is based on the number, always variable, of Officers who have never gone in for promotion.

Promotions to Colonel and all General ranks will continue to take place on a selective basis, promotions to Captain and Lieutenant Colonel on the basis of seniority, while for the rank of Major the mixed system is envisaged (seniority and selection).

Of course, the change from the old to the new regime will have to be gradual and orderly and for this reason appropriate transitory regulations have been foreseen. These are of the utmost importance for the correct and balanced alignment of the many and sometimes extremely diversified positions.

After this brief outline of the inconveniences deriving from the existing laws on promotion and of the prospects for the future rules, we must now turn back to the pre-war period where we may find an answer to our second question. At that time, the Army, the Navy and the Air Force were each completely self-sufficient by virtue of specific rules and regulations, including those regarding promotions.

In that period, Officers of the Army were promoted according to seniority from the rank of second Lieutenant to that of Colonel and on a selective basis to all General ranks.

The essential condition in order to reach the next rank was to be considered "selected for promotion" and, after that, the existence of a corresponding vacancy in the higher rank. The officer could be admitted to the evaluation only after having fulfilled his service obligations (minimum periods of permanence in the same rank, periods of Command and other requirements), just as it is today.

After an assessment of the service performed, based on methods which differed according to the rank, the officer was declared "selected" or "not selected".

For Lieutenants and Second Lieutenants a simple "evaluation" was sufficient. Captains were given "classification marks" and had to follow a special course, the outcome of which was taken into account and to which only those who had obtained marks higher than the prescribed minimum were admitted.

Lieutenant Colonels and Majors were given classification marks together with a "service assessment" while Colonels and Generals were given a "coefficient of merit".

The authorities summoned for this delicate task were many and of different levels. In fact, while Second Lieutenants, Lieutenants and Majors were evaluated for promotion by the hierarchical authorities, Lieutenant Colonels were judged by a Central Advancement Board. Classification marks were assigned by special classification Boards and the coefficient of merit was granted by the above Central Board.

The officer "selected for promotion" was entered in special promotion lists having annual validity for Lieutenants, Captains, Majors and Lieutenant Colonels and a six-month validity for Colonels and Generals.

On the contrary, the officer "non selected for promotion" maintained the rank he had at the moment of the evaluation up to his reaching of the age limit, except for Lieutenants and Second Lieutenants who were assigned to the reserve, respectively, after two or three negative evaluations.

However, the entrance in a promotion list was not necessarily the natural prelude to promotion, as it is nowadays by virtue of the new normative system, because promotion could then be obtained only when a corresponding vacancy in the higher rank occurred for a number of natural reasons (4). Only in the ranks of Colonel and General did the law provide for a system of six-month compulsory vacancies (5) which had the result of determining promotions in the lower ranks by virtue of intake from above.

In conclusion, from this brief outline, we realize that, before the war, promotions were not only marked by a strict form of selection but they did not guarantee adequate prospects of career due both to the system in force and to the peculiar shape of the hierarchic pyramid which had a very large base of Junior Officers and a very limited summit of Generals.

As a result, this situation offered limited chances of career and it was to be presumed that one's career would end with the rank of Captain or Major at the best.

Due to the brevity of this survey we cannot answer all the questions exhaustively, but we believe it is enough to give an idea of the complexity of the problems concerning the promotion of personnel and the difficulties the law-makers have to face when studying laws which should be adequate, just and ever closer to the spirit of the historic moment.

Of course, much has been done since the remote 1940, many barriers which then seemed unsurmountable have fallen, further benefits have been granted by virtue of laws, even recent ones, other advantages can be foreseen for the immediate future, but all this will be vain unless it has a positive spin-off on the military organization; that is, if those for which these laws are designed will not draw from all this the necessary motivations

which are at the foundation of the efficiency of any Institution.

Giuseppe Giubbini Ferroni

Lieutenant Colonel Giuseppe Giubbini Ferroni attended the Military Academy, the Application School and the War College. He served with the 132nd armoured Artillery Regiment "Ariete", the Military Academy, the 5th Artillery Regiment, the 155th "Emilia" self-propelled Artillery Battalion, the Army General Staff and commanded the "Venaria" 52nd Field Artillery Battalion.

Lt.Col. Giubbini is now Chief of the Recruitment, Status and Promotion Department of the Defence General Staff.



NOTE

- (1) Law of November 12, 1955, No. 1137.
- (2) Law of May 9, 1940, No. 370 for the Army; T.U. August 1, 1936, No. 1493 for the Navy; Royal Decree of January 28, 1935, No. 314 for the Air Force.
- (3) Is based on the following main points:
 - permanence of most officers in each rank or group of ranks, stabilized in the number of years best responding to the requirements of the highest efficiency of the Cadres;
 - promotion for certain ranks according to selection, and for others according to seniority, regulating selective promotions on a fixed percentage of officers to be evaluated;
 - promotions, on a selective basis, for a fixed annual number, estimated on the average of vacancies coming up naturally.
- (4) That is, due to natural events such as death, promotion, retirement, etc.
- (5) I.e. enforced by law.

COLUMBUS THE GREAT SAILOR

Christopher Columbus was not the lucky traveler who by chance becomes a discoverer. He was a discoverer, being the true inventor of a new idea.

He had an exceptional sense of smell: this is the most certain and important fact we know about Christopher Columbus' person.

Barely over twenty, he landed on the island of Chios, a Genoese colony in the Aegean Sea. The Greeks call it "mirivólos", the island of the thousand aromas. Its field and slopes are resplendent with sage, thyme and oregano which fill the air with their heady and pungent aromas. Today, as then, the overpowering odor is that of mastic which was a magic allure for the young Columbus. For the rest of his days, it evoked the mystery of the East and dreams of the magic Orient.

But Columbus was also gifted with exceptionally good sight and hearing. In 1498, during his third Atlantic crossing he contracted ophthalmia, after spending twenty-seven July afternoons on the deck with his eyes fixed on the sun, due to the East-West course. However he never lost those exceptional, incredible seafaring qualities which he had acquired as a boy sailing the Ligurian and Mediterranean seas, and had further perfected on the Atlantic.





His plan to "buscar el Levante por el Poniente", to reach India by crossing the Atlantic, was born from his dream of the Orient and his mastery of the Atlantic which had, up to then, been a mystery. He had an original plan, an ingenious and non-conformist plan which totally contradicted the Greek and Roman dogma of the antipodes as uninhabitable.

It was the plan of a great sailor and he was perhaps, together with Cook, the greatest sailor of all times.

This was backed by intelligence, fantasy and genius, as well as the physical qualities which we have already mentioned.

Combined, these faculties endowed Columbus with what one of his most ardent admirers, the explorer Charcot, called "le sens marin", the sixth sense of the sea.

We have objective evidence and will cite three examples.

First the route, or rather the routes, as Columbus not

only discovered America, he discovered the outward and homeward routes between Europe and the Gulf of Mexico. Even in this day and age sailing boats crossing the Atlantic follow Columbus' course on his second journey from the Canary Islands to Guadalupe! The discovery of new routes calls for a deep understanding of trade winds. Columbus was truly master of the Ocean.

He was, above all, the first to sail on the high seas in modern times; the first to sail with determination into waters from where, for long periods, there was no sight of the land.

The second example is

Columbus had no idea of the phenomenon of the madreporian barriers. Nevertheless his seaman's genius prompted him to act as if he knew it.



his behaviour in the Caribbean.

The first novelty of the great discovery was the coral reef. No other sailor of Christianity had ever come upon this incredible phenomenon. Columbus, therefore, had no idea of what was the phenomenon of the madreparian barriers. Nevertheless, his seaman's genius prompted him to act as if he knew it. Once he realized that land was in sight, just two leagues to the west, he gave orders to strike sails, to proceed only with the course and to mark time, waiting for the next day. There were rocks ahead, but they were coral rocks of a type not yet known to sailors and geographers. Columbus senses

the danger and stops.

With the rise of the new dawn he spotted the frothy white spray that was produced by the waves against the rocks. The island of San Salvador is completely surrounded by the coral reef. The cape had to doubled at a great distance, and this is exactly what

The sky took on a sinister hue, the sea became still and dark, and the air stifling. The storm was rising.

Columbus did.

He was seeking a suitable stretch of sea on the west of the coast that would allow him to make a leeward landing. He spotted an opening in the reef, steered the three vessels through and approached the beach. How Columbus managed to find, or rather guess, the whereabouts of that opening is no mystery; it is one more proof of his seafaring genius. Today sailing boats and motorboats approaching San Salvador can find that same opening only with the help of nautical maps and buoys, and often even have to resort to the guidance of the local pilots.

During his four voyages Columbus' keen sense of the

sea quickly mastered the many varied aspects, characteristics and subsequent difficulties that are encountered when navigating the Caribbean Sea. This is attested by the fact that, having sailed these waters in every possible direction, and almost always without being familiar with them and without guides, he only had one accident, on Christmas Eve 1492, when the helm was left in the hands of a young ship-boy.

The third test was his forecast of an approaching hurricane.

Anchored in front of Santo Domingo on his fourth voyage, Columbus learned that thirty Spanish vessels were ready to set sail for Europe, with substantial cargoes of gold.

He immediately spread the word that the departure should be postponed as a heavy storm was approaching.

There were no obvious signs to back up his forecast, neither sea nor sky appeared threatening and the wind was favorable for an eastward departure. The Spaniards laughed at the Genoese's warning and the imposing fleet weighed anchor. But before the ships reached the easternmost point of Hispaniola, the sky took on a sinister hue, the sea became still and dark, and the air stifling. The storm was rising, but the total lack of wind made it impossible to turn back. The hurricane tore at masts and keels, smashing everything on board. The greatest part of the ships was lost together with the entire crews and an enormous amount of gold. Only four semi-submerged ships managed to make their way back to Santo Domingo through the turbulent waters. Some others, in sorry state, found shelter in havens and coves along the southeastern coast.

Only one ship, the small and second-rate "Guecha" was unharmed and continued on its journey towards Spain, unaware of the destiny of its sister craft. Alonso Sánchez de Carvajal, Columbus' agent, was



on board this ship carrying four thousand gold pesos which Bobadilla, on the King's orders, had paid back to the rightful owner. This was the only gold, of all the vast treasure that had left Santo Domingo, to reach Spain, where it was handed over to Don Diego, Christopher's son. It was surprising that only Columbus' gold was saved from the storm, but even more amazing was that all four of Columbus' ships, including the Santiago de Palos, which he hoped to exchange, survived the storm.

The young Columbus already conceives his great design and fathoms, in his fantasy, the mystery that he will disclose with his exceptional seafaring ventures.

A haughty stranger, who was also a clairvoyant and a wizard capable, with his magic arts, of conjuring up a hurricane which sinks the enemy ships but does not harm his own vessels!

Of course Christopher Columbus was not a wizard, and it was by chance that the only ship which managed to reach Spain was that carrying his gold. But it is not so obvious that Christopher Columbus guessed that a hurricane was approaching: this was a phenomenon unknown to the old world, and the Genoese had only once experienced one, seven years earlier. So once again he proved that he possessed an unsurpassed knowledge of the sea.

It was possible casually to come across more dolphins than normal, and maybe some seals, just as it was not unusual to feel aches in the joints before it rained, but no one had ever got the "smell" of a rising storm, because to do that it was necessary to have the sense of smell which was Christopher Columbus' most sensational personal prerogative.

Our adventurer's sensorial capacities were without doubt of greater importance than his physical appearance. It must be said that there are no true portraits of Columbus. There are about eighty portraits, greatly differing one from the other, as the artists were inspired by their own fantasy and only sometimes took into account the little but essential information regarding his physical appearance that was passed down from those who had actually known him.

This information comes from four sources.

The first comes from Don Fernando, Columbus' son who was born when Columbus was 37 or 38. In the "Historie della vita e dei

fatti di Cristoforo Colombo" he writes, "The Admiral was a well-built man of more than average height, with a long face and high cheeks and neither a tendency to fat nor to leanness. He had an aquiline nose and clear eyes, his color was white and bright. In his youth he was blond but by the age of thirty was completely white-haired"

The second piece of evidence comes from friar Bartolomeo de Las Casas who met Columbus in Santo Domingo in 1500 when he was about fifty. Las Casas writes in the second chapter of "Historia de las Indias": "With regard to his physical appearance, he was above average height and built, with a long and authoritative face, an aquiline nose, blue eyes and pale skin that tended towards a reddish hue. His hair and beard had early turned from the youthful blond to white".

Gonzalo Fernandez de Oviedo in the "Historia general y natural de las Indias" describes Columbus as he knew him at the age of forty: "A man of good and handsome appearance, taller than average and heavily built, with bright eyes and well proportioned features, his hair was a bright red and his skin reddish and freckled".

The last description is that of Angelo Trevisan, Venetian clerk and secretary to the Venetian Ambassador to Spain, who probably saw Columbus when he was just over 50 years of age:

"Christopher Columbus, Genoese by birth, a man of tall and aristocratic stature, red, highly talented and with a long face".

A long face, rather high cheekbones, no sign of overweight (Don Fernando), a longish face (Las Casas), "faza longa" (Trevisan). The high and broad forehead gives him an aristocratic air (Trevisan) and suggests authority (Las Casas).

The nose is aquiline, as we are assured by Don Fernando and Las Casas.

Light eyes (Don Fernando),



blue eyes (Las Casas), bright eyes (Oviedo), sign of great ingenuity (Oviedo and Trevisan) as well as of eloquence and pride (Las Casas and de Barros).

We are left with the problem of his coloring. But we have some sure facts: his hair, after the age of thirty, was white. Therefore his son Don Fernando, Las Casas, Oviedo and Trevisan — four eyewitnesses — knew Columbus when his hair had already turned white. This is why there is a difference regarding the color of his hair as a young man: blond says Don Fernando, as does Las Casas, who

A man of respectable height and handsome appearance, heavily built, with bright eyes and well proportioned features.

describes his color as "rubios", which in Castilian means blond and makes one wonder why some English writers translated "rubios" into "red". Maybe they were influenced by Oviedo who talked of "very red hair" and of skin with a reddish hue.

Dario Maria Martini rightly described him as having red cheekbones. In fact Don Fernando says he was "pale, with bright color", Las Casas says "pale skin tending towards a bright red", Oviedo "reddish and freckled skin" and Trevisan "red".

We are inclined to believe that the young Columbus had hair that verged more on reddish than blond as Don Fernando and Las Casas tell us, but there is no doubt that by the end of his first voyage of discovery (undertaken when he was forty) the greatest sailor in history already had a head of completely white hair.

We can see Columbus standing on the deck of his ship, white hair blowing in the wind, his keen eyes intent on the horizon and the treacherous sea. The portrait of the young Columbus who dreams of the East, fascinated by the magic perfumes of Chios, the young Columbus who scans the ocean — no longer a dark enemy for man — observing the winds, the currents, the tides, the endless calms, the storm warnings; the young Columbus who has already conceived his great plan and lets his fantasy run on the great mystey which his actions and his exceptional seafaring ventures will turn into reality.

Christopher Columbus was far from being a lucky traveler who by chance became a discoverer. He was a discoverer because he was the true inventor of a new idea, of a new perspective unknown to the old world, an unknown quantity to the Greek, Roman, Christian, Arab, Islamic, Indian, Chinese and Japanese civilizations.

He was a colossus in the history of mankind.

Sen. Paolo Emilio Taviani

The collage features nine postage stamps with military and cadet themes:

- Chad (République du Tchad):** 1976, 1st Anniversary of the Revolution of Officers. Features a marching band in blue uniforms.
- Cuba:** 1976, 1st Anniversary of the Revolution of Officers. Features a soldier in a beret and a cadet in a cap.
- St. Vincent:** 1986, 50th Anniversary of St. Vincent Cadet Force. Features a marching band in orange uniforms.
- St. Vincent:** 1986, 25th Anniversary of the St. Vincent Cadet Force. Features a marching band in orange uniforms.
- St. Vincent:** 1986, 25th Anniversary of the St. Vincent Cadet Force. Features a marching band in orange uniforms.
- Cuba:** 1976, 1st Anniversary of the Revolution of Officers. Features a soldier in a beret and a cadet in a cap.
- Cuba:** 1976, 1st Anniversary of the Revolution of Officers. Features a soldier in a beret and a cadet in a cap.
- Cuba:** 1976, 1st Anniversary of the Revolution of Officers. Features a soldier in a beret and a cadet in a cap.
- Cuba:** 1976, 1st Anniversary of the Revolution of Officers. Features a soldier in a beret and a cadet in a cap.

Stamp-collecting may be considered and valued in several different ways and under many aspects, but there is no doubt that — objectively speaking — it is also a means of promotion, study and culture of great importance. And — just as there are very many stamp-collectors of "militaria" — almost all the countries of the world, apart from the political regime on which they are based, have used and still use philately to promote their Armed Forces and their different specializations and branches.

In several countries — such as, for example, Great Britain — the Military Headquarters make up for the non-issue of stamps by means of postal cancellations to celebrate the Units and events which are part of their history and their most meaningful traditions: the anniversary of their foundation and/or of some decisive war event, the participation in certain ceremonies and/or manoeuvres and/or celebrations, etc..

The issue of a commemorative stamp — on November 14, 1987 — dedicated to the Centenary of Naples "NUNZIATELLA" MILITARY SCHOOL consents a quick

glance at the stamps regarding the Academies and Military Schools of Italy and the world. We have no intention of writing a historic-military treatise on the subject, but we shall just "show" a selection of the most recent material.

The Modena MILITARY ACADEMY — one of the oldest in the world if not the oldest (it was planned in 1669 and built in 1678, long before Italy became a nation) and rich in the highest and noblest traditions — did not get a stamp to commemorate its 3rd Centenary.

Locally, however, two different postal cancellations were used. One was mechanic

and the other manual: the former bore the legend "Accademia Militare, 3° Centenario, Torino 1678 - Modena 1978" and the latter had the same legend and the picture of the front of the Palazzo Ducale, ancient dwelling of the Estensi and present home of the Academy. A non-official stamp, some postcards, an envelope and a large cover with the coat of arms of the Academy printed on the back were also published.

"Rivista Militare" published a special historic-documentary supplement, very interesting also due to the various uniforms it presented.

Since we wish to speak of philately only, we shall here describe only the large envelope with the manual postal cancellation (photo 1) and that with the mechanical postal cancellation (photo 2). On the latter, the unofficial stamp is applied next to the illustration.

The obvious stinginess of the Postal Administration as regards the Military Academy of Modena was abundantly made up for on the occasion of the Centenary of the Livorno NAVAL ACADEMY. Cavour had wanted the establishment of this Academy in 1861, but it was opened only twenty years later and after many deadlocks. Three stamps were issued in 1931 to commemorate its 50th



Photo 1: Manual cancellation for the 3rd Centenary of the Military Academy.



Photo 2: Mechanic cancellation for the 3rd Centenary of the Military Academy.

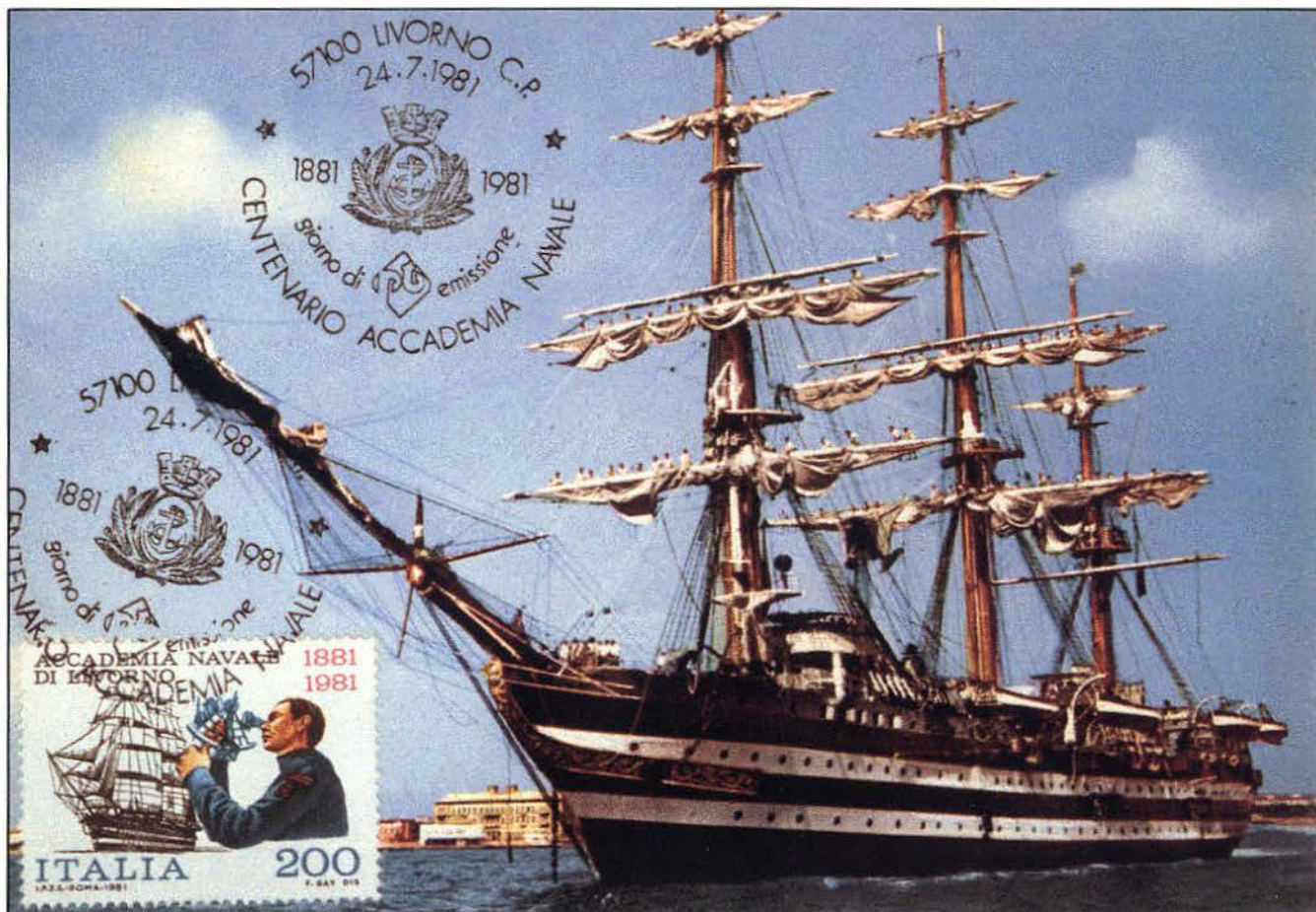


Photo 3: "Maximum" post-card with postal cancellation, 1st day of issue, Naval Academy.

Anniversary. On this occasion three stamps were issued: on the 80 Lire we can see the front of the Academy and the crest of the Navy, on the 150 Lire we see the Academy from above and the brigantine grounded in the yard, representing the first difficult trial for the cadets, on the 200 Lire there is the "Amerigo Vespucci" training ship and a cadet using a sextant.

Besides the postal cancellation "1st day of issue" — with the badge of the Navy, shown here on a "maximum post-card" (photo 3) — a second postal cancellation was used, showing the masts of the above mentioned brigantine which is illustrated here with the complete set of three stamps on the back of a post-card published by the Navy General Staff (photo 4). On the same occasion a mechanic "plate" cancellation was used.



Photo 4: Set of three stamps celebrating the Centenary of the Naval Academy, with postal cancellation, on the "verso" of a post-card.

It represents an anchor and a helm. An unofficial sheet was also published with the uniforms of the Cadets in different periods.

ANFE published a booklet on the activity carried out by the Academy, a second booklet was edited by the Academy itself and a third one by the EPT of Livorno. Even the Mint celebrated the event with a 100 lire coin.

After this "exploit" the Centenary of the Military Medical School of Florence passed by without much ado. The above School was established in 1882, but its outlines had already been set down in 1873. It deserved many rewards in its specific field of activity (but also during serious calamities, last but not least the flood caused by the Arno river, which saw the Cadets

engaged in medical services as well as in heavier jobs, such as shovelling mud from the precious volumes and codes of the National Library). The Centenary was celebrated only with a postal cancellation on which we see its crest (photo 5). I do not know of any other initiative, except for a post-card — rummaged at one of the many small antique markets — and the usual, well-informed article on "Rivista Militare".

The 50th Anniversary of the Pozzuoli AIR FORCE ACADEMY established in 1923, also passed by without celebrations. There is a postal annulment of '82, on the occasion of the oath taken by the Cadets of the "Aquila IV" Course and used for the transport of an air dispatch from Pozzuoli to Pratica di Mare and which is shown here on a post-card



Photo 5: Postal cancellation for the Centenary of the Military Medical School.



Photo 6: Postal cancellation for the Oath of the Cadets of the "Aquila IV" Course, of the Air Force Academy, on a post-card published by the Air Force.

published by the Air Force and drawn by the "X Gruppo Calotta Accademia" (photo 6).

The 50th Anniversary of the ALPINE MILITARY SCHOOL of Aosta, inaugurated in 1934, was completely ignored as far as stamps were concerned, and so were the Anniversaries of other Arms and/or Corps Schools, though they play an important role in specific military training (and also civilian/professional) of the young.

* * *

As regards foreign Academies and Military Schools, for obvious reasons of space (and, in some case, lack of detailed documents) we shall only describe the material reproduced.

Before concluding, a brief remark seems necessary: though the standards by which the Italian Postal Administration decides the "number" of stamps in a set and the "subject" of the issue — everyone can note the lack of balance, the uselessness and the omissions — I believe that the Military Commands should pay more attention to philately and what it represents and could represent in this society. A postal cancellation and a commemorative post-card — and maybe an Exhibition too — are not an insuperable difficulty, and the Philatelic Clubs would be happy (not only in big cities, but in provincial towns as well) to offer their cooperation.



BELGIUM: 1984 - stamp for the Centenary of the Royal Military Academy on "maximum" post-card, showing the Flag of the Academy escorted by the Honor Guard (1st day of issue).

BRAZIL: 1961 - set celebrating the "Agulhas Negras" Military Academy on the 150th Anniversary of its establishment. The 2.50 stamp shows the crest of the Academy, while the 3.30 shows the Cadets' typical sabre and headgear. (1st day of issue).

Gianni Martinelli



FRANCE: 1981 - stamp for the Centenary of the St. Maixent Military School, on official post-card of the School (1st day of issue).



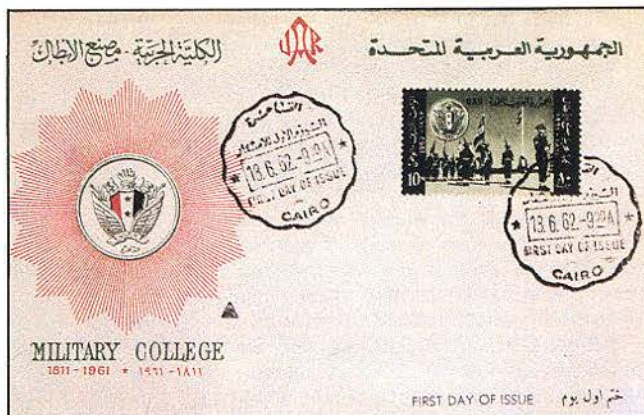
CANADA: 1976 - a commemorative set for the Centenary of the Royal Military Academy Centenary, with 1st day cancellation. The stamps represent:

- the Flag escort, with the Arch of Memories on the background;
- a Cadet in parade uniform in front of the Mackenzie Building, Headquarters of the Academy.

On the cancellation and in the picture on the envelope, the crest of the Academy.



MEXICO: 1973 - 150th Anniversary of the Military School on envelope and with 1st day cancellation. The stamp shows a Cadet in full winter uniform, while the cancellation and the picture represent the crest of the School.



UAR, EGYPT: 1962 - 150th Anniversary of the Military Academy, on envelope with 1st day cancellation. In the stamp, we see the Cadets on parade.



Philippines: 1980 - a commemorative set for the 150th Anniversary of the Military Academy, on envelope and with a 1st day postal annulment. The stamps show the uniforms of the Cadets and the crest of the Academy (this is also shown in the picture on the envelope). In the cancellation we can see the typical plumed kepi of the parade uniform.



GREECE: 1978 - commemorative set for the 150th Anniversary of the Military School, on envelope with 1st day cancellation. The stamps show respectively:

- 1.50: the first Headquarters of the School and a Cadet in period uniform;
- 2: the crest of the School
- 10: the present Headquarters in Athens and a Cadet in today's uniform.



WAR GAMES

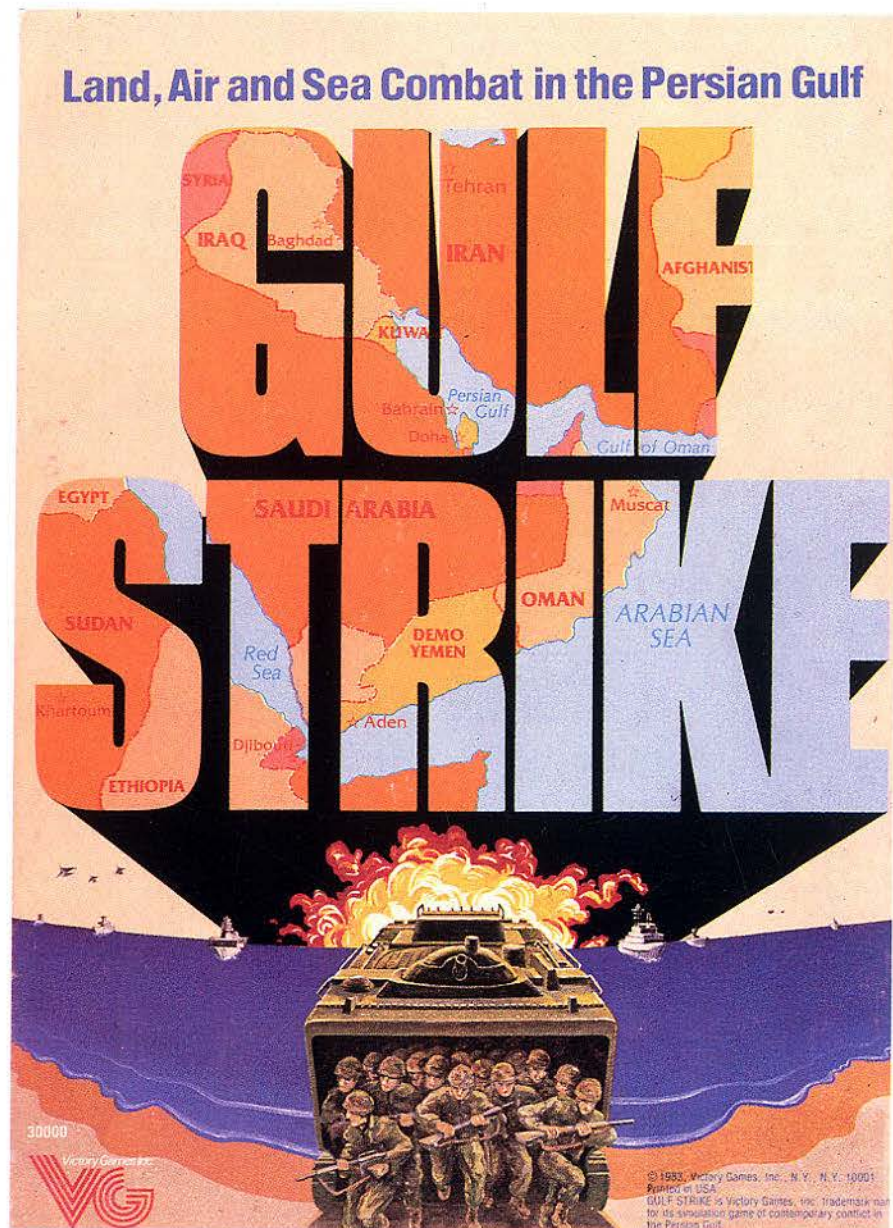
GULF STRIKE - THE PERSIAN GULF IS BURNING

Also simulations can make mistakes, especially when anticipating or attempting to anticipate the future. "Gulf Strike", published at the beginning of 1983 and set in May, 1985, outlined a strategic situation which, fortunately enough, did not occur. The basic situation of the subject matter surveyed is the following. Iran defeats Iraq in the Gulf War and the *jihad* spreads throughout the Persian Gulf, involving the Emirates and Saudi Arabia. The United States, unable to stand such a radical destabilization of the region, intervenes and provokes the reaction of the Soviet Union. Thus, a direct confrontation between the two planetary powers occurs.

The falseness of the scenery being quite clear, the issue is most certainly of great interest because, even if the Iran-Iraq war seems to be at a standstill which will be hard to overcome without political compromises, the Persian Gulf and Middle East areas are still among the most tormented and unstable and, due to their vital interest for the whole Western world, a local conflict could lead to an encounter between the superpowers.

The simulation is one of the few available "triphobic" simulations set in the contemporary period, and, probably, the only one dealing with problems concerning all three components (land, air and sea) of the Armed Forces. The mechanism is among the most difficult and it is advisable to start learning the simulation by introducing only one component at a time (the first game played only with aircraft, the second with aircraft and sea forces and the third with all three forces), even if, obviously, in this manner it will not be possible to maintain a balance of the scenarios. Once a first group of expert players has been "trained", another suggestion is to introduce the new players not simply between two players, but between two teams in which the different players have well-defined and limited tasks.

The pieces for simulations represent air flights, single naval units or land units at Brigade/Division level. Moreover, two different maps are supplied. The first covers the area of strategic intervention from the Diego Garcia Island to the Soviet borders and from Egypt to the Gulf of Bengal. The second



reproduces, in a ten times bigger scale, that which is believed the critical area of the conflict, i.e. virtually all the Persian territory. Of course, the rules to operate on the two

maps are different, but variations are logic and not ambiguous.

In this simulation virtually all kinds of aircraft capable of operating in the area con-



WAR GAMES

sidered are represented, such as the MIG 23, the Galaxy and the Hercules, while ships are indicated only by class. Land forces are subdivided according to training, from the super-trained Divisions of the U.S. Rapid Deployment Force to the Iranian *pasdaran*. Obviously, land units are further subdivided according to equipment (armoured, mechanized, Infantry units) with a very detailed casuistry and thus with well-defined characteristics for each kind of unit.

A basic point, sometimes neglected in strategic simulations, is the importance of the combat deployment of land units. Units may take on different deployments going from "transfer" (highest mobility, low defence capacity and attack) and "organized attack" (low mobility, good defence and attack capacity) to "defence to the bitter end" (no mobility and attack capacity whatever, excellent defence capability). The terrain and the degree of the troops' training have an important influence on the combat.

The logistic flow is simulated in a very realistic way. Supplies, which have to be "used up" for a series of actions such as the movement of a unit and the reconstruction of a flight, greatly affect the final results of the simulation and are linked to the capability of keeping control of the tactical-logistic lines of supply. The latter are maintained by "depots" carrying out two functions: one of "relay" among the sources of supply and the fighting units and one of "reserve" for the combatant units and in this case they can supply a limited quantity of goods before being eliminated from the game.

We believe that Gulf Strike is the most realistic game on the market to simulate strategic problems concerning modern warfare and to supply a clearer view of the general aims of war, aims which might escape us if the eye is caught only by the individual tactical actions.



Above.

Examples of pieces of Gulf Strike.

From above left: Iranian F 15 (front and back); United States F 15 (front and back); MiG 23 (front and back); B 52 (front and back); United States nuclear aircraft carrier (front and back); conventional Soviet submarine (front and back), Iranian armoured Division; United States Rangers Battalion, Soviet armoured Division.

Below.

A moment in a scenario.

While Ethiopia is invading Somalia, U.S. and Soviet naval forces face each other off the horn of Africa.



CAVALLEGGERI DI PADOVA

On October 1, 1883, the 21st "Cavalleria Padova" Regiment was established in Padua. The law of June 29, 1882 decided its establishment, enforced by the Royal Decree of September 7, 1883. The Foggia, Monferrato, Lucca, Caserta and Roma Cavalry Regiments, for the constitution of the new unit, contributed their respective 6th Troops, which became, respectively, the 1st, 2nd, 3rd, 4th and 5th Troop. On October 2, 1883, colonel Luciano Bartolomei became the first Commander of the Regiment. In April 1884, by the Ministerial Decree of March 10, the 6th Troop is established: it includes elements drawn from the 5 Troops of the Regiment. In 1888 the Padova Regiment contributed to

the establishment of the 1st "Cavalleria Africa" squadron and of the "Cacciatori a Cavallo" Troop in Eritrea. Only in 1897, by Royal Decree, was it called "Cavalleggeri di Padova" Regiment. This Cavalry formation took part in many military actions and contributed to their success. In the final days of the first World War, the first Squadron of the "Cavalleggeri di Padova", distinguished itself in such brilliant operations, praised by everyone, that it earned the name of "Cavalleggeri del Grappa". By virtue of the Royal Decree No. 2143 of November 21, 1919, due to the reduction of the Arm, the "Cavalleggeri di Padova" Regiment was dissolved and on February 1,



1920 it was incorporated, as 2nd squadron, in the "Cavalleggeri di Lucca" Regiment.

The heraldic emblem of the Regiment is the Eagle of Savoy with widespread wings, clutching the sceptre in its talons, surmounted by the royal crown; on its breast is the oval escutcheon. Within the shield, on a red field, the silver cross, emblem of Savoy and on a silver field the red cross, symbol of Padua. "Valore e cortesia" (Valour and courtesy) is the motto printed on the ribbon around the sceptre. The uniform of the "Cavalleggeri di Padova" was as follows: busby with crimson braid and black velvet badges, crimson border, blue jacket with crimson collar, dark grey trousers with double black stripe, white leather bandoleer. The Officers' uniform was: black double-breasted jacket with crimson collar and black velvet badges, crimson border, silver braid, epaulettes and bandoleer, light grey trousers with double crimson stripe.

This valuable figurine, modeled and painted by Cannone, represents a Corporal of the "Cavalleggeri di Padova" in field uniform in 1884. The cotton cloth jacket of this Corporal, made famous in the paintings by Giovanni Fattori, who often observed "from life" the mounted soldiers performing exercises in the Tuscan Maremma, was adopted in 1880 and became the new field uniform. In common with the present camouflaged suit, it has maximum simplicity, proved by the total absence of badges. The insignia on the cover of the busby is in black thread, like all ornaments on field and manoeuvre uniforms. The soldier is painted with oil colours, with a skillful contrast of shadows and lights, which sets off all the details of the uniform. The expression on the soldier's face helps to give a sense of balanced reality to the whole piece.

Costantino Pecorelli



40 YEARS EXPERIENCE



SMA is a flexible company founded in 1943. Since 1948 has been active in design, development and production of electronic equipment for defence. Main activities are radars for ground, shipborne, airborne, missile applications and related display systems. The company broad spectrum permits the supply of turnkey systems tailored to the end-user needs.



SMA

SEGNALAMENTO MARITTIMO ED AEREO

SMA's basic product lines and business sectors include: High definition and discrimination coastal radar control stations, both for maritime traffic management systems and military application (anti intrusion, coastal defence, mine splash detection); Shipborne navigation /search radars devoted to low, very-low air coverage (anti sea skimmers); Missile active homing heads, provided with a variety of ECM devices, for SSM (OTOMAT MK2) and ASM (Marte MK2) applications; 360° coverage search and navigation airborne radars for helicopters and maritime

patrol aircraft; Standard Pod contained search radars for fixed wing aircraft to be employed in conjunction with ASM; Integrated search and tracking radars for A/A defence to be employed both on specialized trucks (OTOMATIC) or on semi-mobile/fix station for point defence; applied research aimed toward millimetric waves (up to 100 GHz) in active and passive sensors (radiometer); Duct analysis and electromagnetic propagation forecast.

P.O. BOX 200-FIRENZE(ITALIA)-TELEPHONE:055/27501-TELEX:SMARAD 570622-CABLE:SMA FIRENZE

vir VETRERIE **GRUPPO** INDUSTRIALI ROMANE

Via dei Ruderì di Torrenova 72, 00133 Roma TEL. 6144752-6144251-6143135 FAX 6144600

SUPPLIER TO MILITARY ORGANIZATIONS

Bullet - proof, anti-breaking, anti-robbery and fire - proof casings and glasses - insulating glass doors (THERMOVIR)
Supplies for building trade and furnishing.



The inside of the Galleria Apollodoro with a perspective view of the three rooms.

"PAROLA ITALIA"

(Rome, Galleria Apollodoro, 17, piazza Mignanelli, from December 2, 1987 to March 31, 1988)

In a civilization such as ours, dominated by images (which document in an immediate manner the attitude of a Nation and of a historical period), it seemed quite logic to the creators and organizers of the exhibition (Giovanna Massobrio and Paolo Portoghesi) to propose a group of 30 known artists (Alberto Abate, Carla Accardi, Ubaldo Bartolini, Paolo Borghi, Arduino Cantafora, Bruno Caruso, Sandro Chia, Antonio Corpora, Antonio D'Acchille, Bruno D'Arcevia, Stefano Di Stasio, Luigi Frappi, Omar Galliani, Paola Gandolfi, David Ligare, Gino Marotta, Titina Maselli, Umberto Mastroianni, Igor Mitoraj, Luca Pignatelli, Massimo Pulini, Marco Rossati, Mario Rossello, Aligi Sassu, Guido Strazza, Riccardo Tommasi Ferroni, Lorenzo Tornabuoni, Giulio Turcato, Emilio Vedova, Luciano Ventrone) the task of translating into visual terms the emotion experienced before famous quotations on Italy by writers and classical poets. It is something similar to the "lied" of Germanic tradition: the completed poetic text was matched to music which had been composed independently; here, in fact, the artist turns the literary text into images.

"Parola Italia" is the title of the original, unusual, extravagant, amusing and patriotic



Bruno D'Arcevia, translates the passage from Dante's Purgatory ("Ah, gente che dovesti essere devota e lasciar Cesar in la sella") (Ah, people you should be devout and leave Caesar on the saddle) with a restless, manneristic and eclectic painting which evokes the sixteenth century of Baccafumi, Rosso, Pontormo, Primaticcio.



Riccardo Tommasi Ferroni imagines Italy, traditionally turreted, standing naked in the middle of a dumping ground, a snake around her fleshy legs, a flag demurely covering her pubis. In the background, the cupola of St. Peter's in the distance. With a winking smile, Italy seems to be repeating Garibaldi's political will: "Fare l'Italia anche col diavolo" (Make Italy (united) even with (the help of) the devil).



Bruno Caruso interprets Johann Wolfgang Goethe ("the land where lemons bloom and golden oranges glitter amid dark leaves") with an oniric maid holding a basketful of lemons and flowers of Italy and Sicily.

exhibition organized in the post-modern Galleria Apollodoro in Rome.

The exhibition is divided into three different spaces: the first is inspired by the first primitive Italic hut, the second by the idea of centrality proper of the Renaissance, the third by the theatrical tradition of the crystal wall and stage.

The artists who have illustrated in 31 paintings and two sculptures the quotations and verses, belong to all schools and trends: neo-figurative, neo-classical, neo-mannerist and abstract.

The exhibition, which shows a provocative and provoking Italy and wishes to pay it a tribute, is also an invitation to consider the theme in a manner different from that evoked by the idea that "parola Italia" may rhetorically recall. One should reflect on the image of Italy seen through the eyes and the works of today's skilful artists.

Mention must be made of the elegant catalogue which, besides reproducing the images matching the literary texts, has some very interesting and learned essays, among which those by Benedetto Marzullo on the "Radici del Linguaggio Italoico" (The roots of the Italic language) and by Luca Quattrocchi entitled "Donna Italia: profilo iconografico dell'Italia nell'Otto e Novecento" (Lady Italy: iconographic profile of Italy in the nineteenth and twentieth centuries).



Gian Carlo Torcelli

The first room is inspired by the primitive Italic hut.



Alberto Abate shows in a dark and hypersymbolic manner a passage from Juvenal's "Satire" ("Se talvolta la solennità dei giorni di festa viene celebrata in un teatro") (If sometimes the solemnity of festive days is celebrated in a theatre).



Paola Gandolfi immerses herself, together with Leopardi, in an ancient idealism ("O Patria mia, vedo le mura e gli archi e le colonne e i simulacri e l'èrme/torri degli avi nostri...") (Oh, Motherland, I see the walls and the arches, the columns and the sacred images and the solitary towers of our ancestors...).



Marco Rossati paints in a metaphysic manner Vincenzo Monti's Italy ("Bella Italia, amate sponde, pur vi torno a riveder...") (Beautiful Italy, loved shores, I am coming to see you again) with a fleshy figure and an ideal countryside which inspires the moving and mortal mystery of beauty.



DIARY OF A COMBATANT IN LIBYA



The Libyan war told by a participant and not by an expert or a scholar, a history book, but different from all others, in which we do not find strategic comparisons or political and military issues, but just men, the men in the trenches with all their emotions and curiosities for a world wholly different from the one they come from, men and their fatigue, hardships and sometimes boredom, described with a touch of humor. It is the «Diario di un combattente in Libia» (Diary of a combatant in Libya) by Stefano Longo, 28th Bersaglieri regiment, recently published by «Rivista Militare».

A diary which lieutenant Longo, then 26 years old, wrote every day from September 17 to November 27, 1912 on drawing albums («which I always took with me — he writes — in a big haversack to which I had a long strap applied so I could carry it baldric-wise»). Good at drawing as he was, he jotted down on these albums caricatures of fellow soldiers, scenes of daily life, countryside views, anything that came to him on the spur of the moment.

As the author states in his introduction to the book, he started re-organising these notes two years later in Benghazi with the secret hope of seeing his memories published some day. Longo, however, did not have this satisfaction. Soon after, the «Great War» broke out, from which the officer returned

with some decorations but also with serious wounds. He died a few years later, also as a result of the injuries and the privations suffered.

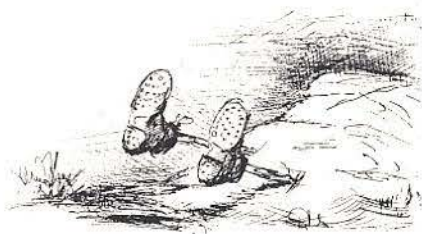
The manuscript was found among family documents by his son, Colonel Vito Longo who had hardly known his father, who died when he was only two years old. Vito Longo showed the albums to some of his colleagues and it was thus decided to publish the diary, respecting its spirit and characteristics to the very end. The simple photographic reproduction of the original manuscript was preferred to type, even if this meant sacrificing clearness and easy reading to directness of narration and description. Even the changes perceived in the handwriting maintain, in this way, their weight and significance: they reveal fatigue, emotions, changes in mood.

In lieutenant Longo's diary there are no descriptions of battlefields, but of men. Bersaglieri, Askari, Arabs cannot escape the pencil and ironic strokes of the young officer. The irony — we find this out only halfway through the diary — is also in the title. Lieutenant Longo had taken with him in Libya the enthusiasm and values of a «combatant», but in fact not even once did he get the chance of firing a single shot. The author himself ends up by admitting that his work could have been entitled «The diary of a combatant who has never fought» and who «Has nothing else to fight than a wretched dysentery».

War, however, is in the background with the echoes of gunfire in the distance, the corpses surfacing on the sand («the corpses of our heroes have had an honourable burial — Longo writes — but those of the Bedouins are scattered all over the field, hardly covered by two or three shovelfuls of sand. Some

are nothing but skeletons, others are half covered, others turned over, their arms and legs wide open, empty eye-sockets, contracted limbs, maimed bodies, an arm hanging from the shoulder by a tattered piece of shriveled skin»).

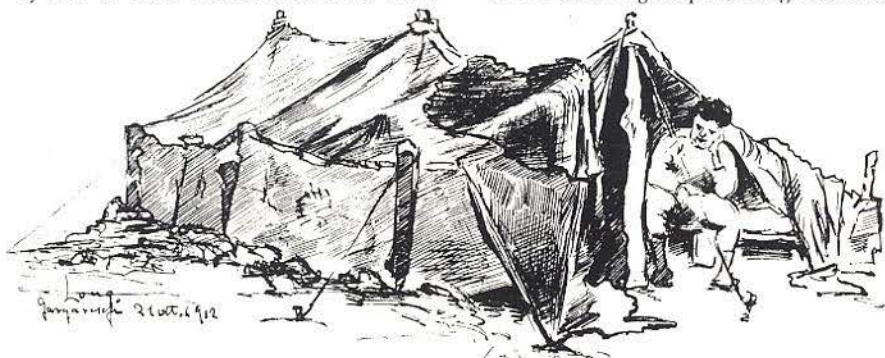
War is even more present in the descriptions of Longo's unit moving from the camp of Zanzur to the Gargaresh garrison and the



hardship of life in the trenches with fleas, dysentery, «worn out tents, full of holes, a pitiful sight, so many times have they been put up and taken down and then put up again». Sufferings, insomnia, diseases, always described with subtle and sometimes bitter humor, simplicity and humanity and never with rhetoric.

The diary starts with preparations for the departure («happy departure and sad landing» is title of the first chapter). In the first lines the author describes the anxiety of leaving («it would be highly dishonourable not to do one's best to go and get whatever glory still remains in Libya»); in the last lines we feel the author's disappointment on facing the reality of the camp, with «a little room with the starry sky as ceiling» as his first lodging.

In the following chapter, Longo describes





Parte Orientale dell' Oasi di Gargasesch
(altrove l'immagine per gli agiati dell'Impero Ottomano e il telefono che da
Tripoli va a Zanzibar e quindi a Sidi Said)

the life in the Zanzur camp, the meeting with the Askari, the nearby battlefield, the noise of a far off battle.

The third chapter is set in the Gargaresh garrison, which had been occupied the previous January and where, besides the «plumed Gypsies», «Lamarmora's wandering children», as Longo defines his fellow Bersaglieri, there are also some Italian workers and an «abundance of natives: Arabs, Bedouins, Fezzanese, Sudanese, a mixture of white, chocolate, olive and black people, black like the Manubian, the famous schoepolish». The ones Longo likes best are the Sudanese «black as coal, always opening their enormous mouth showing their white teeth which seem even whiter amid so much black» and whose, «nature is simpler than the Arabs, more jovial and loyal. They are also harder workers than the Arabs, who think very little of them».

Then the author writes of the announcement of peace, of how they moved out of

Sudanese che fa la danza del re



Lo squadrone marciante
Andreoli Azeglio
di Zorro, porta-letti
dell'Alto Maresciallo
Bonfiglio



the oasis to make room for the Arabs («but what will those poor devils find after all their wells have been destroyed?»), of an Arab's arrival at the camp, assailed and insulted by some soldiers (Longo and another officer save him from the hands of those madmen). He writes of a mission to Tripoli and Sciarasciat to pay tribute to the Bersaglieri fallen in battle. Lastly, he tells of the return of some prisoners «thin and altered beyond recognition», and of when departure is announced.

Andreoli, «the postman NCO of the regiment, misshapen, a pointed purple nose, small half-closed eyes, fervently devoted to Bacchus» brought the news. «It is said that at Sidi Said, having taken with him to flasks of wine, one of which was broken by a bullet, he swallowed all the wine in the other flask not to lose the other one too»... The two sketches representing «that funny chap, sergeant major Andreoli Azeglio» close lieutenant Longo's diary.

Francesco Bonfiglio



Andreoli Tronco de Tripoli
con la porta

Indico questo diario a
tutta la gente della Divisione Legione,
che, dopo aver battuto ad Assaba i
seguaci di Sulaiman el Barouni,
percorse a piedi tutto l'altipiano del
Gebel Gariani al Gebel Nafusa,
discese da Misurata, verso il mare,
a Bir Sebbana, poi lungo delle coste
in Tunisia, quindi, per Tizi, Giosch,
Seck-Suk, Kar el Itagg, Bir el Ganem
fecero ritorno ad Atjizah.



Dominique LORMIER

L'ITALIE EN GUERRE 1915-1918



ULYSSE

D. Lormier: «L'Italie en guerre (Italy at War). 1915-1918», Ulysse Editions, Bordeaux, 1986, 138 pages.

Probably no other war has been so unfairly ignored or distorted as the one of 1915-1918 which saw Italy against the Austro-Hungarian Empire in the most difficult and tormented theatre of the entire World War.

«L'Italie en guerre» wishes to inform the reader on the development of this long war and on the bravery of the Italian Army, so often criticised, which played a decisive role in the downfall of Austria-Hungary and Germany, thanks to admirable deeds of heroism and sacrifice, carried out day by day, which come to mind with the glorious names which mark the route followed by the Italians: Monte Nero, Gorizia, Asiago, Carso, the Bainsizza, Piave and Vittorio Veneto.

The negative image of the Italian Army derives from a number of commonplaces — negligence of the officers, useless sacrifices of men treated with indifference, insufficient armament — and Dominique Lormier has had a hard time trying to reestablish the truth.

Though Italy was not a State till the end of the XIXth century, it can boast old and well-rooted traditions and there are many Italians who have deserved glory while serving in other Armies, from Raimondo Montecuccoli (who defeated Turenne when serving the Habsburg) to Manfredo Fanti, Enrico Cialdini and Giacomo Medici (who reached the top of the military hierarchy in the ranks of

the Spanish Army).

A century of war for the unity of Italy has moulded the deeply national character of the Italian Armed Forces and it is thanks to this noble sentiment that Italians could face the vicissitudes of the First World War with bravery and determination.

The work of Dominique Lormier, through which the reader can evaluate the events serenely and objectively, is a well-grounded survey on the role of Italy in the war.

In «L'Italie en guerre» we realize that the victory of Vittorio Veneto — which the Italian Army deserved, facing the enemy with bravery and making up for the lack of military preparation with its spirit of sacrifice although it was not the only cause of the fall of the Central Powers, undoubtedly hastened the outcome of the entire conflict.

Massimiliano Angelini



M. Cartone: «Ordini cavallereschi del Regno d'Italia», (Orders of Knighthood in the Kingdom of Italy), Motta Editor, Milan, 117 pages, 80,000 Lire, total circulation 1,000 copies.

Massimo Cartone, very young and very fond collector of medals and Orders of knighthood writes with uncommon passion and true competence on the little known subject of «Orders of Knighthood in the Kingdom of Italy». The volume has splendid colour illustrations and the print is of high quality.

In the book we find the refinement and preciousness of the orders of knighthood, each of which has great

historical value and is tightly connected with the art of jewelry.

This collection is one of the most difficult and least known, for the rarity of the existing pieces and for the difficulty in finding them.

In this beautiful volume, the author makes these particularly fascinating insignia stand out, for they are part of our history and closely bound to the military, political and religious events of our Country.

Though information and characteristics are limited to the essential for the sake of clearness and simplicity, the work, for the very reasons mentioned above, will prove even more important both for collectors and for students of uniforms.

Augusto Mastrofini



«Disegni di macchine. Evoluzione di un linguaggio nello sviluppo della tecnica», (Drawings of machines. Evolution of a language in the development of technics), Associazione Nazionale Disegno di Macchine, Centro di Studio sulla Storia della Tecnica del CNR, Pordenone, 1987, 105 pages.

The intertwining bond between drawing and technical reality, through a collection of drawings of various periods, is one of the aims of the exhibition held in Milan from December 15 to January 31 and shows a renewed interest in a critical re-examination of the things of the past at a time in which technics is having a rapid evolution.

The exhibition wished to inform on the historic evolution of drawing as a language to describe manufactured

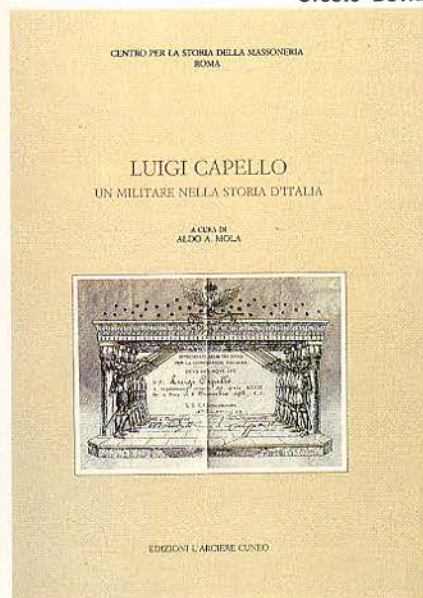


goods of technical utilization and intends to prove that the evolution of this graphic language always goes together with technologic development.

The exhibition was divided into four "sectors": the period of the forerunners, from the origins to the early XVIII century, that of the industrial revolution, from the end of the XVIII century to 1850, that of the development of industry, from 1850 to 1915, and the period of the two wars up to 1945. It regarded technical drawings and design, books for the teaching of drawing, standardization tables and instruments, all well documented in "Disegni di Macchine. Evoluzione di un linguaggio nello sviluppo della tecnica", which is the catalogue of the exhibition.

The display has had the merit of underlining the importance of the retrospective survey which, by illustrating the route covered, the changes and adaptations which went together with technological development, gives us useful indications for the present and the future which must, in no way, forget the past.

Oreste Bovio



Various Authors: "Luigi Capello: un militare nella storia d'Italia", (Luigi Capello: A Soldier in the History of Italy), L'Arciere Editions, Cuneo, 1987, 259 pages, 27,000 Lire.

Some years ago Renzo De Felice published with the title "Caporetto perché?" the defensive memorial which General Luigi Capello drew up in 1918 for the Committee of inquiry and in the learned introduction he pointed out that to remove "psychological reservations and political reticences still felt under the cold and documented historic

settlement" a suitable biography should be dedicated to the Piedmontese general.

This biography has not yet been written, but at last the process of reevaluation has started.

In fact, on 3 and 4 April, 1987, a meeting on "Luigi Capello: a Soldier in the History of Italy" was held in Cuneo. The proceedings of the meeting, put together patiently and wisely in a valuable volume by Aldo A. Mola, experienced scholar of Piedmontese and Risorgimento history, have now been published.

During the two days of the meeting, faithful to the subject at issue, several competent rapporteurs explained and illustrated with plentiful information the salient events in the life of the Piedmontese general and underlined with great skill the cultural environment in which Capello grew up.

Antonio Piromalli spoke about "Luigi Capello memorialist". Pierluigi Bertinaria spoke of the general's activity during the first World War. Aldo A. Mola explained, also with the help of a rich epistolary appendix to his report, how Luigi Capello's association to Freemasonry affected his ideas and behaviour. Renato Franco spoke on the subject of "Military style and civilian society in the region of Cuneo between the nineteenth and twentieth century". Giuseppe Fulchieri reported on "the military history of Piedmont: from Galliano to Capello". Anna Maria Isastia gave a talk on "voluntary service during the Risorgimento in the Italian military tradition". Armando Corona drew the conclusions of the meeting, pointing out that Luigi Capello "is a character which historiography will have to rediscover" overlooking "sterile disputes full of prejudices on the merits and responsibilities for this or that military action, this or that episode of our political history".

Of course, the meeting did not succeed in throwing light on all the aspects of the man, his work as a general and his deeds as conspirator. In fact Luigi Capello's personality, so rich and multifarious, could by no means be fully dealt with in only two days' study. Angelo Gatti, a writer of military topics who had known Capello very closely, described him as a "genial commoner, lively, changing" from whose mind "always active, lapilli, gold, lava, mud, platinum flow as if from a crater".

The meeting, however, fully achieved the aim of drawing the attention of scholars on this leading character of the First World War and underlining, through a critical survey of his character and work, his peculiar open-mindedness as regards democracy and the new demands. It must not be forgotten that in 1921 Mario Missiroli did not hesitate to define Capello "the general of democracy".

Oreste Bovio



N. Mantoan: "Bombe a mano italiane (Italian Hand Grenades), 1915-1918", 56 pages, 10,000 Lire. Requests to be addressed to the Author, 11 Piazza Roma, Creazzo, (Vicenza).

Besides being a fond and attentive collector of militaria, especially of the first World War (uniforms, headgear, weapons, medals, badges), the author is a well-known expert in unexploded war surplus, especially grenades.

His passion and competence brought him to write a complete and well-organized essay on hand grenades made in Italy and used on the various fronts in the first World War.

The book is divided into five parts dealing with 20 different types of grenades: defensive, offensive, rifle, special and incendiary. The book is illustrated with sketches and photographs.

Among the offensive hand grenades, mention is made of the "Thevenot petard", made both in Italy and France and used by Assault Units in particular.

It weighed 400 grams and contained a 160 gram load. Mention is then made of the defensive hand grenades, all with a range over 20 metres: S.I.P.E., friction and percussion type (Gallina), "Besozzi" (with two cast iron caps), "type C Carbone", a piece of tube (40 cm long and 3 cm in diameter) closed at the ends by two wooden caps, "Baldari", with a cast iron casing and wooden vane-handle, B.P.D. "to consumption" (weight 110 grams).

Gian Carlo Torcelli



MUSEO DELLA CIVILTÀ ROMANA

VITA E COSTUMI DEI ROMANI ANTICHI
1



A. Dosi F. Schnell

*Le abitudini alimentari
dei Romani*

EDIZIONI QUASAR

MUSEO DELLA CIVILTÀ ROMANA

VITA E COSTUMI DEI ROMANI ANTICHI
2



A. Dosi F. Schnell

Pasti e vasellame da tavola

EDIZIONI QUASAR

MUSEO DELLA CIVILTÀ ROMANA

VITA E COSTUMI DEI ROMANI ANTICHI
3



A. Dosi F. Schnell

I Romani in cucina

EDIZIONI QUASAR

MUSEO DELLA CIVILTÀ ROMANA

VITA E COSTUMI DEI ROMANI ANTICHI
4



Daniela Manciola

Giochi e Spettacoli

EDIZIONI QUASAR

A. Dosi-F. Schnell: «Le abitudini alimentari dei Romani», (The eating habits of the Romans), published by Quasar, Rome, 1986, 125 pages, 12,000 Lire.

A. Dosi-F. Schnell: «Pasti e vasellame da tavola», (Meals and crockery), published by Quasar, Rome, 1986, 96 pages, 12,000 Lire.

A. Dosi-F. Schnell: «I Romani in cucina», (The Romans in the Kitchen), published by Quasar,

Rome, 1986, 127 pages, 12,000 Lire.

D. Manciola: «Giochi e Spettacoli», (Games and Shows), published by Quasar, Rome, 1987, 101 pages, 12,000 Lire.

Among its primary objectives, an adequate reevaluation of our artistic heritage must give all those concerned every necessary means for a correct approach to the cultural subject. Often, a scientifically irrefragable text, clear and comprehensible, read with due attention

may be more profitable than an impersonal visit to some museum set up according to archaic and arid nineteenth century schemes, without an appropriate preparation and a modern didactic apparatus.

The above considerations gave rise to the idea of returning to an old series of publications, born in connection with the vast Mostra Augustea della Romanità of 1937, which dealt with a series of subjects regarding the culture, history, and society of ancient Rome.

The Museo della Civiltà Romana, sponsor of the initiative, is the only Museum in the world capable of exhibiting, on a vast scale, the reconstruction of Roman civilization in all its multifarious aspects with more than 4,000 pieces among casts, relief maps and reconstructions, displayed in an area of 13,000 square metres. Hence, the idea of a collection of books entitled «Vita e costumi dei Romani antichi» (Life and customs of the ancient Romans). The books, which deal with stimulating subjects, are a pleasant reading in themselves and a useful guide for the various sectors of the Museum.

The first three cover a very modern subject; that of the ancient way of eating, in all its varied components, from the analysis of the produce of the soil and of animal products, to the examination of the environment in which people ate, the crockery used and the rules regulating the consumption of luxury products. The study of archeologic and philologic data brings us to realize that certain famous extravagances (see *Satyricon* by Petronius) were in fact considered such also by the ancients and that the eating traditions of the lower classes did not undergo many changes in the period from ancient times to the industrial revolution of the nineteenth century.

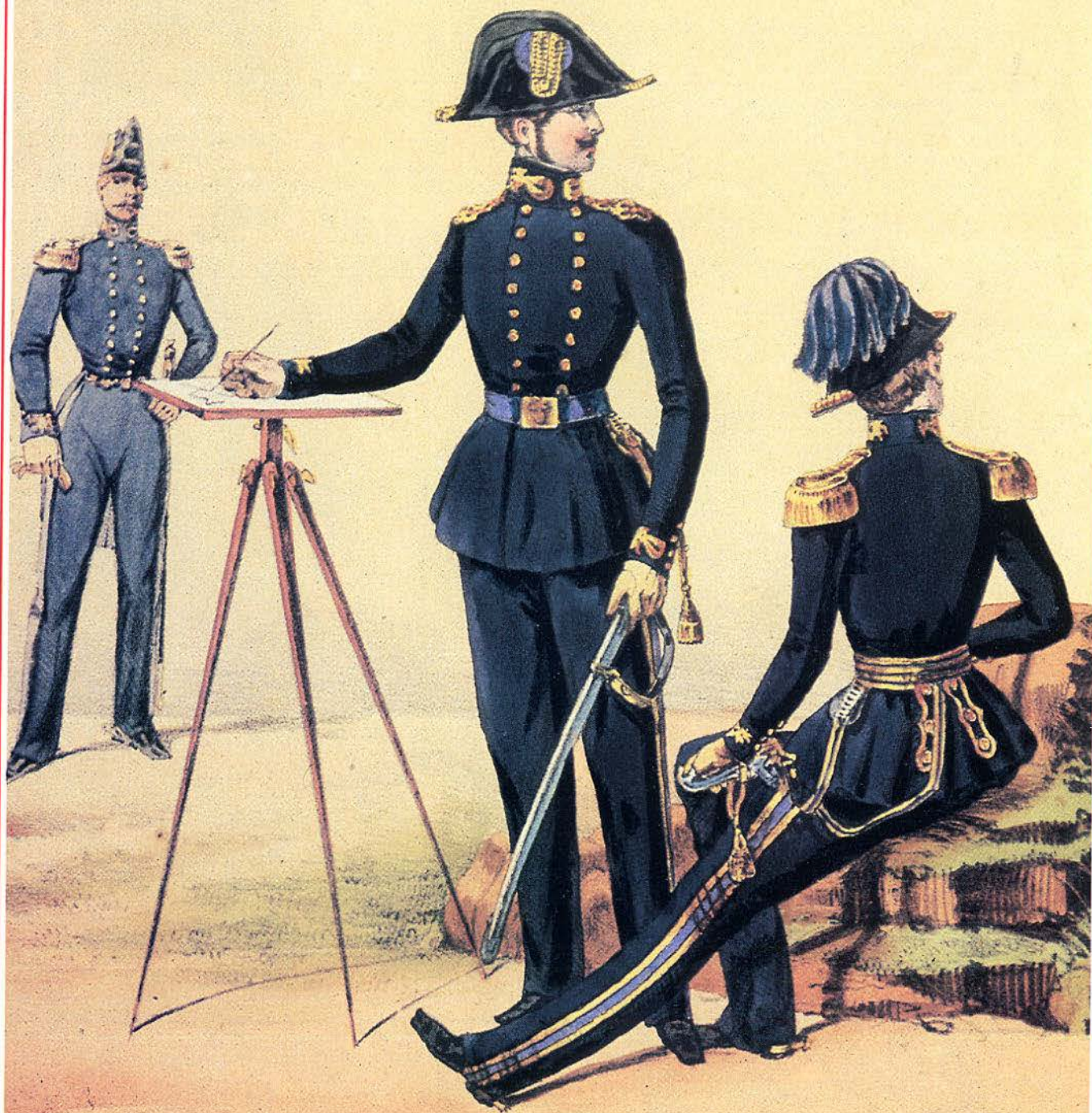
The fourth book entitled «Giochi e Spettacoli» (Games and Shows) deals with the subjects of fun and amusement in ancient Rome, where also sport, in all its components, was considered a show. The author analyzes all forms of public amusement: from circus to theatre, from games in amphitheatres to athletic games.

The abundance of information given by recent studies and new discoveries makes the reading of this book very interesting: suffice it to think that the most stately monument come to us from antiquity is the Colosseum, i.e. a place where ancient «games and shows» were performed.

The fifth volume, now being printed and of which we shall talk in detail later, is titled «Organizzazione militare: esercito» (Military organization: the Army). For the first time in decades, it tackles the most interesting themes regarding the Roman military organization.

Anna Maria Liberati Silverio







AUSTRIAN CAVALRY HELMET (Mod. 1918)

Devised in 1918 for the cavalry, this helmet was also used later; between 1933 and 1935 was distributed to the artillery and was frequently worn by Officers.

The semicircular cuts in the brim, at ear level, had the purpose of facilitating the airflow during rides.

The helmet was decorated on both sides with decals showing traditional badges and colours.

AUSTRIAN CAVALRY HELMET (1914-1915)

Franz Joseph's cavalry consisted of 10 Divisions and had an excellent reputation.

The Dragoons were organized in 15 Regiments; their main characteristic was the crested helmet, which derived from the Napoleonic wars.



AUSTRIAN UHLANS' CZAPKA (1914-1915)

The headpieces of the cavalry were more varied than those of the infantry; the different Regiments could be distinguished from far off, even when the helmets had the "feldgrau" cover on. While the spiked helmet (pickelhaube) was the headgear of most German cavalymen, the Uhlans wore the Polish czapka, and the Ussars a fur hat, the busby of the Napoleonic wars.

The first Uhlans appeared in the Prussian army in 1808, and were organized in two Regiments.

Austria-Hungary had 11 Regiments of Uhlans.



CASERMA DEL CURIO DEL TRENO



RIVISTA MILITARE

JOURNAL OF THE ITALIAN ARMY FOUNDED IN 1856



NOVEMBER
DECEMBER
1988

LIRE 4,000
\$ 4
D.M. 6
£ 3

★ **ANTONIO VIESTI**
The evolution of
italian society
and military
institution

★ **VITTORIO BERNARD**
NATO after the
agreement on the
euromissiles

★ **ENRICO GIMELLI**
Scientific research
in Italy of
interest to the
Army

**4
NOVEMBRE
1988**



**Popolo e
Forze Armate
nel 70° anniversario
della Vittoria**

RIVISTA MILITARE

JOURNAL OF THE ITALIAN ARMY FOUNDED IN 1954



ARMED FORCES
The evolution of
the Italian Army
and military
institutions

ARMED FORCES
NATO after the
agreement on the
euromissiles

ARMED FORCES
Scientific research
in Italy
related to the
Army

The Atlantic Alliance, which must take into account both general defensive problems and the different realities of member countries, involves an ever growing commitment and a greater participation aimed at pursuing the path of stability and peace undertaken in the last forty years.

BIMONTHLY

Supplement to number six
of Rivista Militare

Editor in Chief:
Pier Giorgio Franzosi

Management and Editorial Office
8, Via di S. Marco
00186 Roma
Tel. 47357373

Advertising
Care of the Secretariat of
Rivista Militare
Tel. 6794200.

Printer
Tipografia FUSA Editrice s.r.l.
Via Anastasio II, 95 - 00165 Roma

Subscription and forwarding
By mail
Gruppo IV - 70%.

Conditions for 1989
One issue: Lit. 4,000
One back issue: Lit. 8,000
Subscription rates: Italy 22,000
Abroad: Lit. 30,000
Payment must be made on postal account
No. 22521009 in the name of
SME Ufficio Rivista Militare -
Administrative Department -
Via XX Settembre 123/A - Roma.
Residents abroad may remit payment through
bank cheque or international postal order.

Authorized by the Court of Rome under
No. 944 of the Registry
by decree 7-6-1949.

Issue edited by:
Augusto Mastrolini

CONTENTS



Number six 1988
November-December

Rivista Militare aims at broadening and updating the technical and vocational training of Officers and NCOs. It is thus a means of propagating the military way of thinking and a forum of study and debate. Through the publication of articles of technical and scientific interest, Rivista Militare also aims at informing the general public on the Army and on military issues.

Politics, Economics and Strategy

2 The evolution of the Italian society and military institution.

(Antonio Viesti)

14 NATO after the agreement on the euromissiles.

(Vittorio Bernard)

26 Between politics and defence.

(Fabio Mini)

36 The contribution of the Army to civil protection.

(Remo Gaspari)



Science, Technology and Training

43 Scientific research in Italy of interest to the Army.

(Enrico Gimelli)

50 The Italian technological and industrial policy.

(Umberto Marino)



Sociology and Problems of Personnel

59 The social influences of the war.

(Francesco Cervoni)

66 A better employment for corporals.

(Vito Antonio Martino)

73 Book Reviews



© 1988

Proprietà letteraria artistica,
e scientifica riservata

Instructions for contributors: Anyone may contribute. To guarantee the highest objectivity of information, Rivista Militare leaves contributors considerable freedom, though it does not necessarily share their opinions. The Author is thus solely responsible for the articles which, published unedited and without editorial ties, exclusively reflect his personal ideas. Articles must be original in thought and should not exceed ten typewritten pages. Once the Author is paid for his article, he loses all exclusive rights. Rivista Militare may then pass the article on to other publications and EMPA (European Military Press Agency) periodicals. Articles should be accompanied by suitable photographs, illustrations and explanatory tables. A photograph of the Author, together with a brief "curriculum vitae" and a 10 line typewritten summary of the article would be much appreciated. Rivista Militare claims the right to change the title of articles and choose the typeface deemed most suitable.



Member of USPI
Unione Stampa
Periodica Italiana



THE EVOLUTION OF AND MILITARY



ITALIAN SOCIETY

INSTITUTIONS

From the second postwar period to this day our Country has made a long journey through liberty, and by proclaiming the Republic has opened a new chapter in the history of the young unitarian state which, in the course of only one century, between 1848 and 1945, had borne the burden of three wars of independence, two world conflicts and, lastly, the liberation war.

The relations between citizens and state, the atmosphere and the methods adopted by the political battles have changed, the citizens' average education has greatly improved and so has the critical participation in social life: a more and more mature and vigilant public opinion keeps a constant and close watch over the work of the constitutional, political, jurisdictional and administrative organs of the State.

The condemnation of terrorism, springing from the conscience of our people, has confirmed the level of love of freedom and civil order attained by the Italians. The economic and social development has known no respite, despite the presence of a considerable structural unbalance between North and South, difficult international situations and scarcity of raw materials.

To the right:

E. Prampolini: *Project of the hall decorated and furnished for the Aeronautic Body.*

On the next page:

E. Prampolini: *Project.*

With great sacrifices, much work and fervent hope, a ravaged country has rebuilt and improved its economy, has reacquired its place as a respected and heeded component of the international community, has offered, and offers, a determinant contribution to the process of European unification, and to the system of common security: a great and non-utopian political design emerged from the ruins of the second world war.

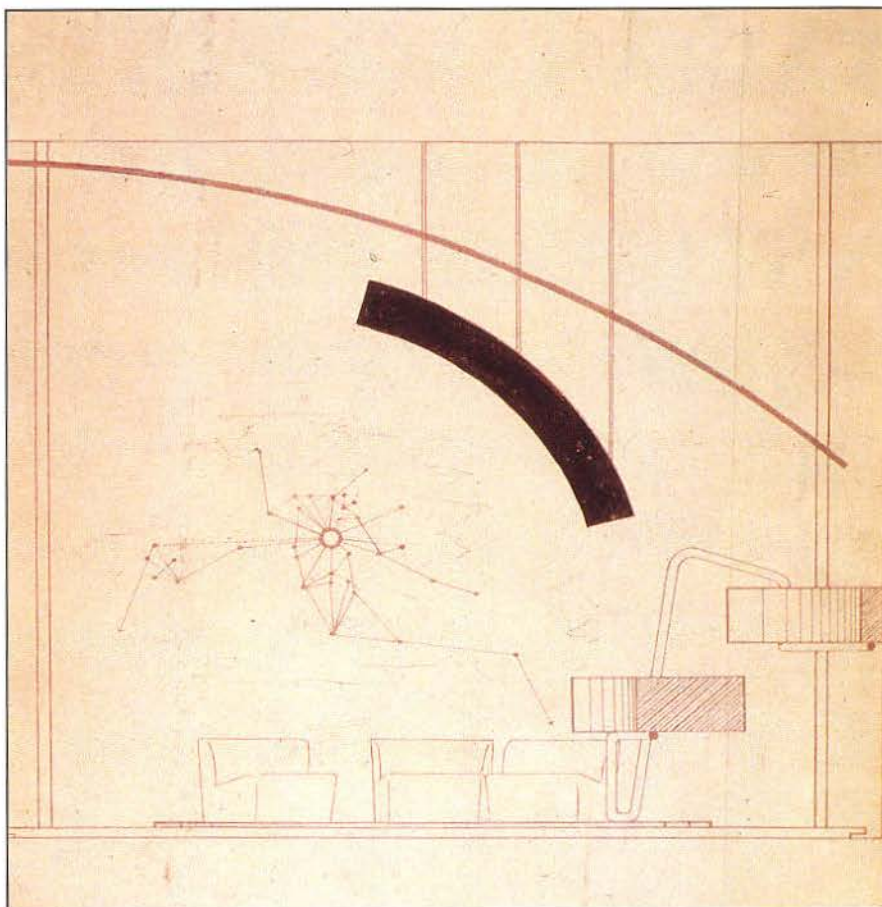
The great headway made by the spirit of tolerance has facilitated meetings and constructive debates within different philosophical and religious experiences, a great open-mindedness towards other people's problems, of a **sentiment of international solidarity** which has passed the most crucial tests in many difficult moments.

As a great constitutionalist observed: "With the birth of a Democratic State, the relations among individual nations come to take a new course: the technique of liberty in constitutional law ties with the technique of peace in international law. The fathers of our Constitution were so aware of this that they passed Art. 11 which states: "Italy repudiates war as a means of offence to other people's liberty and as a means of solving international disputes".

We have kept this solemn promise, precisely as we have safeguarded the dignity and the interests of our Country using the peaceful means envisaged by the United Nations Charter.

The association with other democratic countries in the Atlantic Alliance, now approved by most political forces, is the most unquestionable sign of Italy's international standing and of her determination to defend its independence and freedom.

In these last years Italy has cer-



tainly undergone hard trials, moments of great political and social stress, periods of separation between the "legal" country and the "real" country, days of deep suffering: nevertheless she has always found the necessary strength to start again on the road of progress.

THE EVOLUTION OF SOCIETY

We have moved, or are moving, from agricultural society to industrial society, from industrial society to tertiary society, from production society to service society, from rural to urban society, from an austere and thrifty society to a consumers' society, from a society based on traditional culture to a society of data processing and telecommunications.

The postwar period may be divided in three great subperiods:

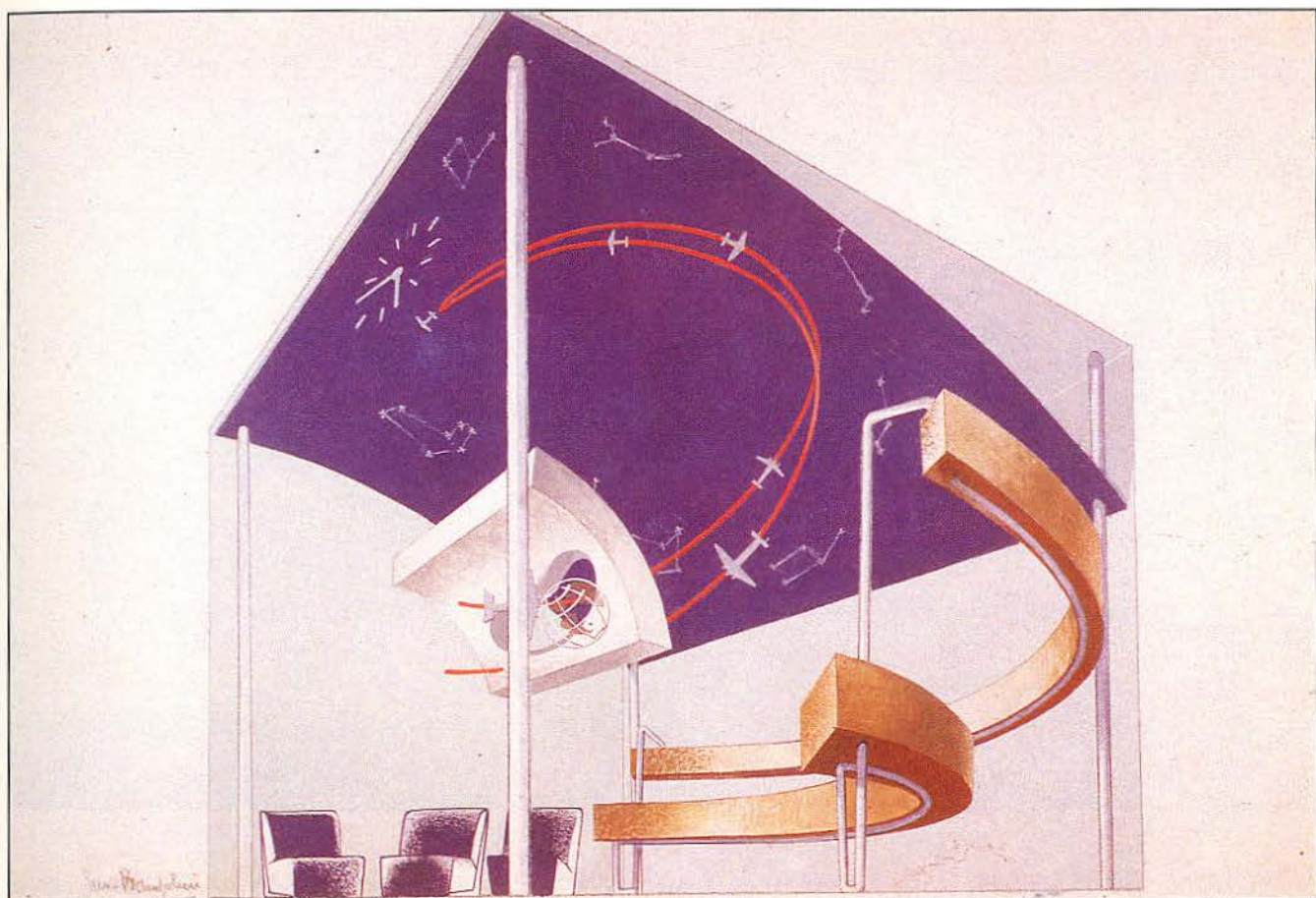
- the first, that of the country's reconstruction after the crisis of WWII, which has coincided with the

republican choice, the development of democracy and the relaunching of national economy;

- the second, from the mid-fifties to the mid-sixties, in which the country has gone through a phase of industrial growth and development of private consumption;

- the third, after the seventies, which witnessed, first, the "crisis" of the development process hinged on major industries which was overcome by the polycentrism of production plants and, subsequently, the growth of tertiary industries, the advent of a post-industrial society, the explosion of social complexity.

These, of course, are not strictly delimited periods. Nevertheless they have their own identity and an important explanatory function. From their sequence and their intermingling with the preceding schemes one understands that the Italian development is the result of a long historical drift and not the outcome of vehement passages and decisive events. Society has evolved slowly, relying on its own roots. In other



words, the modernization process of the country was grafted on tradition. Unlike other countries, where the economic development brought about a rejection of the socioeconomic order and traditional lifestyles, the long and rich Italian tradition as a whole has been an asset rather than a drawback in the development.

This may be observed at many levels:

- **economically speaking**, in the development of "localism" and of an economy which spreads through areas characterized by rich handicraft traditions and by a family economy rapidly transformed and open to innovations without cutting the ties and the continuity with the past;
- **socially speaking**, in the permanence and centrality of the family as a unitary subject, as producer, consumer and economizer, although immersed in a wider process of complication and segmentation of lifestyles and social patterns;
- **socially speaking**, in the develop-

ment of local administrations, in political decentralization, and in the growth of the Regions as self-governing bodies rooted in traditional local environments.

Therefore, if we are to suggest an interpretative guideline — and, as such, a necessarily simplified one — we can say that this "mix" of modernity and tradition has coagulated in an increase of subjectiveness. Rather than producing a standardized and homogeneous society, the Italian model of development has emphasized the subjectiveness and the many individualities expressed by Italy, with her hundred Cities and Communes.

Such subjectiveness today may be detected in the increasing entrepreneurial qualities of the system, in the development of independent work, in the advancement of the products "Made in Italy", which proceeds side by side with the relaunching of the big concerns through technological innovation, financial reconstruction and the opening up of foreign markets.

THE EVOLUTION OF MILITARY SOCIETY

In parallel with the evolution of civilian society military society has also evolved in a more and more interdependent and integrated way. In order to better understand the extent of such transformation we deem it expedient to make a short outline of the historical heritage of our Army, from the unification of Italy to the eve of the last World War.

The constitution of our national Army, which incorporated the Piedmontese Army and imposed structures, hierarchies, disciplinary rules and traditions that seemed to prefer loyalty to the dynasty to the consent and participation of the citizens of the annexed states, shows a weak point right from the start i.e. the lack of that **material and spiritual amalgam** which is a factor of cohesion and efficiency in every military organism.

Suffice it to mention the refusal



E. Prampolini: *Alto Adige*.

of the southern populations to identify with the new military instrument and the consequent mass-dodging of military service.

The ensuing necessary repressive measures produced an atmosphere of hostility towards both the Government and the military institutions, a hostility which was to last over the years and is in part still alive, though in unconscious and almost instinctive forms.

The choice of nationwide recruitment and the rule of sending the young men as far as possible from their native regions, if on the one hand answered real operational and security needs, on the other created in the young military a feeling of being subject to a violent imposition closely linked to a reality they felt alien to them.

The principle of personal duty, already sanctioned in the past century by the "Ricotti reform" has only become fully operative in recent times and, in particular, with the

constitution of the Republic.

As a matter of fact, art. 52 of the Constitution points out that the citizens have the **sacred duty to defend their Country** and also states the principle of the compulsoriness of military service.

The same duty is concretely and fully specified by Law 382 of July 11, 1978 "Principles on Military Discipline", which in confirming the words of the constitution also states two other requirements in meeting which the Armed Forces are called to participate: the "safeguard of free institutions" and the "welfare of the natural community in case of public calamities".

The compulsoriness and universality of military service, as sanctioned in turn by laws implementing the words of the Constitution, have given the Armed Forces of the Republic a character quite different from that of the preceding periods.

It may therefore be said that no other of our Country's organization reflects the characteristics, demands and yearnings of the Italian society as much as the Armed Forces.

THE ARMY: A UNIFYING OPPORTUNITY AND A CONNECTING ELEMENT BETWEEN STATE AND SOCIETY

Military service, in fact, as a representation of the moral and material unity of the citizens, expressed by the affirmation of their loyalty and allegiance to freely elected Institutions, constitutes a unifying occasion and an irreplaceable link between State and Society.

The idea that military institutions, as upholders of the principles of **authority, hierarchy, subordination** and, therefore, discipline, are in themselves antidemocratic and aloof from the context of Society, must be reconsidered in the light of the adaptations that the regulations and the disciplinary provisions have undergone in the course of time in order to correspond to the innovative ferments which have marked the evolution of non-military society.

In fact, today's hierarchical rank is no more a status but a function-



Giulio Evola: *Support troops under the rain.*

nal level, while the concept of subordination as sharing contribution by those placed at the various functional levels is more and more emphasized.

The very adjectives "respectful and absolute" in reference to "obedience" are in disuse, because now "obedience" is referred to as "conscious collaboration".

The new regulations, in the absolute observance of the fundamental democratic principles, envisage a more modern connotation of the corps' disciplinary sanctions, reducing to a minimum the afflictive content of punishment for the military of any rank.

This provision follows at close distance the one concerning the approval of the new enforcement provisions of Military Representation. This seven-year-old organization is a living and working reality, whose essential functions are and must remain those of helping to form and define a reliable picture of the eco-

nomic, normative and social requirements of personnel and make the ensuing concrete suggestions.

The Cadres' and subordinates' professionalism has also followed an evolutionary trend of its own.

The military professional has toned down the warriorlike, heroic-leader conception, to adopt the more modern role of military manager and soldier-technologist.

Together with this, the foundations of command have also changed, see the authority of the commander legitimized by his "functional value" and by his commanding capabilities.

According to the new tasks, a professional officer should more and more develop the capabilities and outlook of the civilian manager and administrator, without nevertheless forgetting the special characteristic which has always distinguished him: that of commander of men, responsible for their lives.

Authoritarianism has given way to trust in persuasion and consensus.

The professional profile of the Cadres is increasingly characterized by

a marked sense of responsibility, deep commitment and thorough competence, considerable managerial flexibility and rationality, very high aptitude for command and coordination, culture and mentality open to innovations coming from the outside but permeated by the highly stabilizing value of tradition.

The growing technicalization has moreover increased the importance of the intermediate Cadres and of the functional areas, with an ensuing decrease in the number of direct functions, replaced by the derived ones.

As for the enlisted men, the role of non-specialized soldier has almost disappeared due also to the increased mechanization.

The old relationship between man and his equipment has been reversed. The armed man has become an equipped weapon, and in both cases, groups, squads and crews must often serve machines and weapons.

Physical effort has been replaced by mental tension, through which other human faculties are called into play.



Virgilio Marchi: *Impression of the tunnel in Rome.*

The crew of a gun, a radio station, a helicopter or a tank is held together not only by a common commander, but also by a common task, which can be satisfactorily carried out only by a team.

In these operational groups, an authoritarian disciplinary model is not only less possible but also less necessary.

This was, in short, a picture of how military men of every standing and rank are changing. It is an incessant and continuous evolution which occurs in close connection with the legislative, normative and structural framework, to give a coherent answer to the demands which, with ever increasing insistence and force, come from a restless

civilian society, which is more and more intent on pursuing its rights — immediately and first of all — sometimes forgetting its duties towards the Country.

THE DEMANDS OF MODERN SOCIETY

What are these demands? Shortened term of service, service quarters near the habitual residence, constant revision of the exemption or deferment criteria, so as to ensure maximum impartiality and consideration for the needs of the individual, be they of a familiar, moral, professional or economic kind.

A further request concerns more

comfortable, better equipped barracks, as regards both infrastructure and hygiene. Moreover, modern society wants to be informed and involved in decisions.

It needs, in short, to know the reasons for the activities that are carried out, both in the purely institutional and in the non institutional fields.

The Army is meeting these demands both in direct and indirect form, always keeping well in mind that its constant aim is to safeguard the fundamental principles of the Constitution.

These answers concern two priority sectors, important for the efficiency of the Service, i.e. **personnel** and the **structure** of the **military instrument** proper, which must be abreast of the times.

As regards personnel, the new automated procedures, which will be fully operational by the end of the year, will permit to reach a degree of regional employment of about 70%, which completely reverses the rule of sending the men as far as possible from their home regions as was the custom in the post-unitary Army.

The progressive enforcement of the recent law reforming conscription, and the complete implementation of the programmes of cooperation with Regions, Provinces and Municipalities, will lead to further improvements from the viewpoint of service as well as from that of socialization and individual promotion. The law has moreover introduced concrete incentives as regards **voluntary service**, today more and more necessary for providing an adequate professionalism at basic level, and a minimum of continuity which cannot be ensured by an only 12 months' military service.

Moreover, the entire structure of the **medical service** has been revised. In particular, it has been deemed expedient to constitute four military general hospitals capable of taking care of a wide range of disea-

E. Prampolini: *Figure plus window*.

ses and of assisting the civilian employees of the Ministry of Defence and their dependents too.

Other Military Hospitals have instead been entrusted only with the care of the range of disease more common among conscripts.

The full implementation of the programme will permit further quality improvements in medical assistance, also by means of a closer interaction between Military and university-sponsored Civilian General Hospitals.

Moreover the system's rationalization will give the young men a better approach to the military organization and a more rapid and efficient service to the citizens concerned with medicolegal aspects.

CONSCRIPTION AND RECRUITMENT

In addition, the area of **conscription-recruitment** has been completely restructured, introducing new procedures, making widespread recourse to data processing, and reducing its size. In particular we have been able to concentrate in Regional Districts the main activities, leaving the information and certification functions to the Provincial Military Districts. Within this framework, particular attention has been given to the psycho-physical screening of conscripts, in order to improve the quality level of the recruited personnel. As a consequence, in the sphere of the Recruitment Boards and the Recruit Training Battalions, the improvement of the diagnostic equipment and of the medical teams is in progress. The latter will always include a psychologist. The conscription-recruitment area, in its new configuration, is going to ensure a more scrupulous and punctual service to the entire population, also improving the services of public utility, information and certification.

Finally in the infrastructural field, extensive plans are under study for



building new and more modern barracks and acquiring and building housing for the Officers and NCOs. We must support and implement these projects, because today's efforts and sacrifices are the foundation of tomorrow's efficiency.

MILITARY STRUCTURE AND DEFENCE MODEL

As concerns the 2nd priority-sector, i.e. **the structure of the military instrument**, with special reference to its global efficiency, the Army has lately been pursuing a policy of "gradual, incessant transformation of structures and materials, in constant pursuit of a cost-effective

management".

In this perspective, in the operational area we have streamlined the line of Command, reducing, through the abolition of Divisions, the principal hierarchical levels from four to three.

Moreover we have reached a quantitative and qualitative balance of the three Army Corps, each of which is going to include from five to seven "Brigade modules"; in addition to this, we have also started the reorganization and concentration of the supports.

As regards the long-distance employments in remote areas or on the islands, whenever the traditional land movement appears inconvenient, we have constituted a **Rapid**



E. Prampolini: *Solar painting*.

The new military instrument which is taking shape is, in short, the product of a military policy hinged on the Atlantic choice, on the European calling, and on the responsibilities deriving from Italy's geo-strategic position in the Mediterranean. Furthermore, it is confirmed by the evolution of the general strategic picture, which presents two basic operational aspects.

The first aspect concerns the renewed role of the conventional forces, within the strategy of flexible response and in view of a balanced reduction — today increasingly possible and desirable — of armaments in Europe, in the framework of the current détente process.

The second aspect concerns the situation of NATO's Southern flank and, more in general, the Mediterranean area which is characterized by elements of tension which demand constant attention.

The Southern Region has in fact become one of the hottest and most sensitive areas of international politics and the centre of recurrent crises, where the old East-West challenge tends to mingle with the uncertain and difficult dialogue between North and South.

Moreover, in the complex and critical interaction of various elements, **international terrorism** has crept in; therefore, the most evident result of the crisis in the southern flank is that Italy today stands at the centre of a rather vast conflictual situation.

Consequently, Italy must have a harmonious instrument, well-balanced in all its operational components, capable of ensuring the defence of the Northeastern border and of facing the progressive movement of the crisis' centre of gravity towards the Mediterranean.

CONCLUSIONS

From the short panoramic survey of the development of military so-

Intervention Force (FIR) which avails itself of a number of aircraft, to take advantage of the third dimension, and can also use naval units.

As regards our contribution to Civil Defence, we have established a **Ready Intervention Force (FOPI)**: an operational reality at the country's service which, if endowed with better and more equipment, could certainly be considered a most efficient force.

Also the training component is undergoing great changes.

I particularly refer to the widespread employment of audio-video equipment, simulators, self-teaching techniques adequately encouraged, computers with didactic and control functions, and wargames of various levels of difficulty.

Finally, the logistic component too is going through a restructuring process in the field of maintenance, repairs and supplies. This will ensure simpler contact logistics in the combat zone, limiting it to control and easy replacement of modules, leaving the actual repair activities to support logistics at territorial level. These activities, carried out by 3rd and 4th level military plants, are complemented by civilian industry, which is called upon to give its assistance. In the future, therefore, as a rule, the actual "repairs" will be done only at territorial level, while the operational units will operate only by "substitutions". This reorganization will permit saving manpower and financial resources which could be allocated to the high-priority operational sector and to investments.

ciety and military institutions, one can draw a first partial conclusion: the Armed Forces and the civilian society, starting from the original separateness which marked their relations from Italy's unification until the immediate postwar period, have become two intertwined realities, although there are still misunderstandings and some residual distrust.

At this point some basic interrogatives arise, which are difficult to answer in full. Is there a contrast between those who have freely chosen the military profession and those who have instead opted for civilian life, since, on the professional plane, the distinction — leaving aside the formal aspects — is becoming thinner and thinner at least at the medium-high levels of responsibility? And this as regards education, culture, engagement, sense of sacrifice. Perhaps in the military the sense of duty and country, the cult of traditions, are more emphasized and there is moreover a more integrated vision of the global problems at international level. This approach generates topical questions: in order to defend ourselves, today, do we need spiritual and moral values different from those of the past? In other words, what are the requirements of today's society as compared with the past? What does society ask of the military today? Does our citizen become a military professional in answer to a calling or is it a choice? Is it acceptable and moral for the citizen to depute his defence to others?

From this arises again the old question of a professional army based on volunteer service instead of conscription.

Certainly the professional Armed Forces afford significant advantages as regards employment: more cohesion, higher operational standard, greater reliability.

But the question, rather than a technico-military problem, is a political, ideological, social and economic one. First of all, **conscription**



has always been part of our national military tradition. In addition, as we mentioned before, our Constitution envisages compulsory military service as the cornerstone of the recruitment of the Armed Forces.

Constitutions can be changed, following the due procedures, but it would be very peculiar if the first change were to concern a duty defined as "sacred".

Moreover, the requirement of having the availability of hundreds of thousands of effectives cannot be met by volunteers alone, and certainly the country could never bear the financial burden of an operation of this kind.

Furthermore, as a consequence of the economic and social unbalances existing in Italy, the Armed Forces would become the expression only of some Regions and some social classes. This would be a nasty return to the post-unity Army mentioned before.

The real problem, in my opinion, is something else, i.e. **to make the**

regular compulsory military service really efficient, rendering it more acceptable to the young men of today.

Is a Country allowed to entrust the task of its defence to a limited component — well trained and perfectly balanced though it may be? Can we expect justice, freedom and security — which are the interface of peace — at the expense of a few? Can one conceive a type of defence not involving the entire society, globally determined to defend its freedom and consequently its own national identity?

In my belief the Armed Forces must remain Forces of the people, representing all aspects of the country: the defence of the rights of democracy, which inspires the entire formulation of our Constitution, is a duty for all citizens, without distinction.

In 438 B.C. Pericles said to the Athenians: "Freedom and Democracy are a sure possession of those who have the will to defend them". In other words, liberty cannot be



E. Prampolini: *Figure in space*.

let out on contract, The moral legitimization of the deterrent will of the Armed Forces and the need to defend democracy are very well expressed by the Pastoral Constitution "Gaudium et Spes" of the Second Vatican Council, which states: "War has unfortunately not been eradicated from the human condition. And until the danger of war exists and there is not an appropriate international authority with efficient forces, once exhausted all possibilities to find a peaceful settlement it will be impossible to deny the governments the right to a legitimate defence".

These concise assertions are decidedly full of a convincing truth and should be a warning to all, but especially to the young who sometimes approach military service with a prejudiced attitude. This occurs mainly because the youth called to arms comes from a society imprinted by edonism and consumer's culture, from a school which at best proposes ideas and not ideals, and from families which have carefully spared them hardships and sacrifices.

Anyway I should like to say that our young, too often lacking motivation, show a surprising sensitivity when true, ideal values are poin-

ted out to them without ambiguous rhetoric.

The Armed Forces' determinant task is to propose values, to make the young responsible, to see to it that their experience becomes a moment of transition from youth to maturity.

But we are only a link in the formative process. Therefore, all of us: family, school, local administrations, Government, Parliament, the entire country, must give our contribution in order that our young, at twenty, might be in a position to face with serenity and determination the future exacting problems of life.

In conclusion the defence of one's country is not a sectorial problem but rather a global one: a problem which involves not only the military, but society as a whole. In this light, the concept of Armed Forces removed from the social context is surpassed for good. The Italian Armed Forces have proved and continue to prove to be lively, flexible, sound and ready to receive the demands coming from our society through the young men who, year after year, come to perform the sacred duty of military service, which therefore must be con-

sidered a service rendered to the State and for the State.

In closing, I would like to remind these young people, but not them alone, of the words said by President Kennedy in 1961, on the occasion of the opening ceremony of the Academic Year at West-Point: "Ask not what your Country can do for you but what you can do for your Country".

What we have just enounced are, in final analysis, the fundamental principles and the points of reference of which the Army considers itself custodian, and vouches for before the national community.

Antonio Viesti



Lieutenant General Antonio Viesti has attended the Military Academy, the School, the General Staff and Advanced General Staff Courses, and the Joint General Staffs Institute. He has been Commander of the 10th Battalion, 132nd Tank Regiment and later Commander of the same Regiment, Branch Service Deputy Commander, "Manin" Armoured Brigade, and Commander, "Granatieri di Sardegna" Mechanized Brigade. Lt. Gen. Viesti has served as General Staff Officer at the Headquarters, "Cremona" Infantry Division, the Defence General Staff and the Headquarters 5th Corps. He has held the following positions at the Army General Staff: Staff Officer at the General Staff Secretariat of the Deputy Chief of Staff; Chief, 1st Section, Planning and Budget Branch; Chief, General Staff Secretariat of the Deputy Chief of Staff; Chief of the Procurement Plans Branch, Deputy Chief of the 4th Division, and Deputy Inspector for Logistics. Lt. Gen. Viesti has been Chief of the 4th Division of the Army General Staff and Inspector for Logistics; at present he holds the office of Deputy Chief of Staff of the Army.

il gruppo italstat

opera nel settore dell'ingegneria civile e della costruzione e gestione di grandi infrastrutture attraverso il controllo di sette comparti operativi nei quali si raggruppano le società controllate e collegate:

- *servizi di ingegneria*
- *costruzioni generali e grandi lavori*
- *concessionarie di costruzione e gestione di infrastrutture*
- *manutenzione di opere pubbliche ed infrastrutture*
- *concessionarie di edilizia pubblica e di servizio*
- *costruzioni di edilizia residenziale e sociale*
- *infrastrutture urbane di pubblico interesse.*

Le aziende del gruppo italstat costituiscono uno strumento cui le amministrazioni centrali o locali possono ricorrere per avviare concretamente a soluzione i problemi posti dalla realizzazione di importanti programmi di opere pubbliche, nei vari aspetti propositivi, organizzativi, esecutivi o di supporto.

Progettazione, coordinamento esecutivo, esecuzione, esercizio di qualsiasi opera di ingegneria civile, tutte le fasi cioè del processo realizzativo e della vita di una costruzione, costituiscono la principale specializzazione del gruppo italstat.

PRINCIPALI AZIENDE DEL GRUPPO

Autostrade
Autostrada
Pedemontana-Lombarda
Autostrada
Torino-Savona
Bonifica
Castalia
Cidonio
Condotte d'Acqua
Con.Piem.
Edil.Pro.
Edilveneziana
Garboli
Idrovie
Im.Co
Infrasud Progetti
Intermetro
Isa
Italcontractors
Italeco
Italedil
Italgenco
Italiana Monte Bianco
Italpark
Italposte
Italstat International
Italstrade
Italtekna
Italter
Mantelli
Mantelli Estero
Mededil
Metroroma
Pavimental
Ptm
Rav
Rep
Sappro
Sat
Siaca
Sicit
Sistemi Urbani
Società Autostrade
Meridionali
Sotegni
Spamo
Spea
Stretto di Messina
Svei
Tangenziale di Napoli

gruppo

iri-italstat

NATO AFTER THE AGREEMENT ON THE EUROMISSILES

A CRUCIAL MOMENT OF DIFFICULT DECISIONS IN A
CONTRADICTIONARY FRAMEWORK OF FEARS AND
HOPES FOR THE FUTURE.



At last the Soviet Union and the United States have signed the agreement on intermediate nuclear missiles, also known as theatre missiles or Euromissiles because they are based on European ground. After many conflicting opinions expressed on this topic before, during and after the final stage of the negotiations, now that this step has been accomplished it is necessary to assess, with peace of mind and impartial judgement, the pros and cons both for the present and for the future, also to determine the possible consequences from the military point of view.

This is the aim of this article which, above all, would like to answer the following questions:

- with the application of the agreement will NATO be stronger or weaker?
- will the balance which up to now has kept peace between the two sides, be stronger or more doubtful?
- are future prospects better or worse than in the past?
- in the military field, what measures have to be adopted to move safely towards a balanced disarmament with lower levels of forces?

To provide the most satisfactory answers, the problem has to be clearly examined both from a military point of view and from a political one, but it is also necessary to take into account the psychological effects on the populations of the member countries of the Atlantic Alliance, since they could have great influence on public opinion and therefore have relevant consequences on the Governments' political and politico-military decisions.

In such a situation, and with the aim of examining the military aspects, there will be first a technical and operational confrontation of the weapons systems to be dismantled and then a confrontation of the strategies of the two blocs in which such systems are located. As for the political aspects, it will at least be necessary to roughly review the events and causes which have first led to the decision of installing and then to that of eliminating them.

TECHNICAL AND OPERATIONAL COMPARISON BETWEEN THE WEAPON SYSTEMS TO BE ELIMINATED

Nuclear device vehicles are generally divided in three main groups: intercontinental strategic, with a range of over 5,500 Km; intermediate or theatre (INF - intermediate nuclear forces) between 500 and 5,500 Km and tactical or battlefield (SNF - short range nuclear forces), with a range up to 500 km.

The agreement signed in Washington on

CHRONOLOGY OF ISSUES AND NEGOTIATIONS

Early 1977:	In the European part of the USSR, the Soviets begin the deployment of the SS-20s, modern, mobile ballistic missiles, with 3 independent warheads, capable of hitting the whole Western European territory.
October 1977:	Helmut Schmidt, Chancellor of the Federal Republic of Germany, calls the West's attention on the threat constituted by the SS-20.
End 1977:	NATO's Nuclear Planning Group (NPG) sees the need to modernize the Alliance's INF vehicles.
October 1979:	Brezhnev, the Soviet General Secretary, proposes to "freeze" the situation with the 130 SS-20 already installed, if NATO does not set up new INF vehicles, because the "balance now exists".
December 1979:	NATO adopts the <i>dual track decision</i> : deploy the new missiles (108 <i>Pershing II</i> and 464 <i>Cruise</i> starting in December '83) and at the same time negotiate, ready to give them up, if the USSR withdraws the SS-20s, to set the balancing of INF at a lower level.
July 1980:	The Soviets accept a negotiation.
November 1981:	President Reagan proposes the "zero option" of the LRINF - Beginning of official negotiations in Geneva.
December 1982:	The USSR proposes a "limit" for the INF in Europe, including the British and French ones.
October 1983:	At Montebello in Canada, NATO confirms the need to modernize its nuclear arms, deciding at the same time to withdraw 1400 warheads from Europe in a 7-year period, adding this to the reduction of another 1000 which had been agreed in December '79.
November 1983:	The first <i>Cruise</i> vehicles arrive from the US to Europe. The Soviets abandon the Geneva negotiations; they have already installed 360 SS-20s with 1080 warheads. The negotiations are suspended until January '85.
March 1985:	New negotiations start in Geneva, including strategic offensive arms and theatre weapons and the defence of Space (<i>Nuclear and Space Talks</i>).
November 1985:	Meeting, in Geneva, between President Reagan and General Secretary Gorbachev, where there is the first possibility for an "interim agreement" on the INF.
January 1986:	Gorbachev proposes a plan for the total elimination of nuclear arms in a period of 15 years and accepts to momentarily exclude the French and British missiles from the negotiations on the INF.
March 1986:	Together with the total reduction of LRINF, the US proposes to put some limits on the SRINF.
October 1986:	Meeting between President Reagan and Gorbachev in Reykjavik, where they define some important elements for a possible agreement on the LRINF and SRINF, including the on-site inspections, on one Soviet condition: that there should be some constraints to the programme of the American Strategic Defence Initiative.
June 1987:	The Atlantic Council assembled in Reykjavik expresses the approval of the United States position concerning the negotiations for the elimination of the INF and advances a reduction of 50% of the nuclear strategic arms, the ban of chemical weapons and the balanced reduction of conventional forces and SNF.
July 1987:	Gorbachev accepts the "double zero option".
August 1987:	The Soviets ask that the <i>Pershings</i> of the Federal Republic of Germany be also eliminated, a request which was later accepted by the Bonn Government.
December 1987:	Signing of the Washington agreement for the total verifiable elimination of the LRINF and SRINF, to be carried out within three years from ratification.



Mixed air formation of Turkish F-4s, Italian PA-200s and American F-16s operating from the Eskişehir base in Turkey during the "DRAGON HAMMER 87" exercise.

Western Europe, such as launching sites, ports, airports, communication junctions, depots, command posts, transmission centres etc. i.e. the vital points through which provisions for the defensive effort and "the regulating intelligence of the battle" pass.

Therefore NATO would not be stronger but only less weak because it would be less vulnerable.

COMPARISON OF STRATEGIES

The Soviet Strategy

As known and confirmed by the size and positioning of its forces, the Soviet strategy is an offensive one since, according to the Soviet military thought, the Soviet Union needs to possess the resources in Western Europe to be able to defend itself. In fact, only with the availability of such resources, together with its own, would it be able to face a long term war with the prospect of success against capitalism's superpower, i.e. America (and possibly against the Communist rival superpower: China). (1)

But, to use such resources, it must not destroy them beforehand and therefore it must try to avoid a nuclear war.

With such strategic aims, the Soviet Union has tried to reach a superiority in all the armament sectors vis-à-vis the NATO forces in Europe and has created a military instrument which, in case of war, must be ready to:

- conquer Western Europe in a very short time using only conventional forces;
- discourage NATO and other enemy countries from employing nuclear weapons;
- give greater strength to offensive operations carried out by conventional forces in case they are stopped even by using chemical and nuclear weapons when necessary, and paralyze, when convenient, the effort and defensive will of the Countries of the Alliance, by using the same weapons.

In such a strategic plan it is clear that in the Soviet Union the role of the conventional forces and above all of the land forces is considered a primary operational role, while that of the nuclear forces is, first of all, to threaten the enemy and then to support and integrate the conventional forces.

NATO Strategy

The aim of the Atlantic Alliance is, first

December 8, 1987 refers only to Soviet and US intermediate range missiles (INF), which can be launched from the ground against land targets (ballistic missiles or Cruise missiles).

They can be divided in two secondary groups: LRINF or long range intermediate nuclear forces (from 1,000 to 5,500 Km) and SRINF or short range intermediate nuclear forces (from 500 to 1,000 Km); while at the beginning only the long range ones were considered in the "zero option", subsequently the "double zero option" also included the short range ones.

As known, the Washington agreement is officially concerned only with the above mentioned Soviet and American missiles, but it practically involves also the German SRINF, the Pershing 1As, which the

German Government has decided to dismantle, on its own initiative, when the agreement between the two superpowers is put into practice. If we now compare all the different ground-based missile weapon systems which have to be eliminated by direct or indirect effect of the agreement, it seems at first sight very favourable for NATO, because it forces the Soviet Union to "dismantle" a very large number of nuclear warheads, many of which are placed on longer range vehicles (4,700 Km of the SS20s compared to the 2,500 of the GLCMs).

In case of a war in which both sides use nuclear weapons, this would reduce NATO's vulnerability because it makes it more difficult for the Soviet Union to effectively hit the distant strategic targets in

of all, that of preventing war, any kind of war, discouraging any attack against its members and secondly that of stopping the aggressor and force it to withdraw in case of a failed deterrence. **Therefore the Alliance's strategy is only a defensive one.**

Because of this, the Alliance has set up a military instrument based on three components (strategic nuclear, non-strategic nuclear and conventional forces) which, even in a condition of inferiority, must be able to:

- play a role of deterrence, facing the potential aggressor with such conditions of risk as not to allow him to have the certainty of success;

- then, resist an enemy attack from the border positions (forward defence) by employing only conventional forces at the beginning and continue the defence by using nuclear theatre weapons through a determined and gradual escalation, from an initial limited use for warning to other attacks in order to force the attacker to stop, negotiate and withdraw, before responding with a strong, generalized attack with mass-destruction strategic weapons (flexible response doctrine).

In this strategic situation it is clear that for NATO:

- nuclear armaments have kept a primary role of deterrence;

- conventional forces have a main

resistance role, which also contributes to deterrence. But, even nowadays, they need the support of the nuclear component to resist, and this because of the existing unfavourable ratio (1:2.5) in ordinary armaments (tanks, artillery, airplanes) compared to those of the Warsaw Pact.

It is also in this perspective that we must consider the Italian Defence, according to which no subsequent agreement can be made on nuclear problems without the preliminary positive conclusion of the negotiations on the conventional stability in Europe.

The *Pershings* and *Cruises*, deployed on European soil on request of the European Governments, after the deployment of the Soviet SS-20s, have demonstrated the will to withstand the new threat, to defend themselves from any risk at all costs, creating a closer bond with the United States and reaching the capability of hitting effectively and rapidly the source of the possible aggressor i.e. the Soviet Union, without immediately and directly involving American strategic armaments.

But in effect, their introduction in the Alliance's European arsenals had even before been considered necessary, to modernize the intermediate nuclear force (INF) and to maintain the capability of "penetration", which had been lost by the

old airplanes, to guarantee the credibility of deterrence.

Incidence of the agreement on the two strategies

From what has been said above it is possible to deduce that the elimination of intermediate range vehicles and their warheads:

- **only partly reduces the capability of intimidation of the Soviet nuclear force**, because the Soviet Union can aim at the European targets with part of its strategic-range vehicles, including the ones situated beyond the Urals;

- **on the contrary, reduces more heavily NATO's deterrence capability**, since it abolishes the weapon systems which are more effective and more reliable to beat the Soviet Union, i.e. the ones which are suitable to apply the doctrine of flexible response. Therefore, it also reduces the capability of resisting and, in a more general sense, that of defending, because it creates limits and conditions for the "flexible response" of the theatre armaments which were previously available, limits and restraints which were to be

The British warship Amazon and the American warship Richard E. Byrd during the 34th activation of the Allied Naval On Call Force in the Mediterranean (NAVOCFORMED).





An M-60 of the Marine Corps arrives at Saros Bay, Turkey, to push back the enemy during the amphibious landing operations of the NATO "DISPLAY DETERMINATION '87" Exercise.

overcome with the installation of *Pershing* and *Cruise*.

We have said "reduces — not jeopardizes — the capability of deterrence and defence", because in fact, from a technical point of view, there are other intermediate range weapon systems capable of hitting the Soviet Union, some of which are already available, and others have been planned for the future, which could be "tied" directly to the protection and defence of Europe (e.g. ballistic and cruise vehicles launched from mobile platforms, such as submarines, ships, airplanes, not considered in the Washington Treaty). But there will have to be the political will to do it.

BALANCE BETWEEN THE TWO BLOCS

If we were to think only in terms of forces, we should say that the Washington

agreement is the first one regarding armament control, which tends to re-establish a balance between the disproportions and the asymmetries existing between NATO and the Warsaw Pact.

But this is not enough, because it is necessary to admit that up to now, **peace has mainly been kept by the balance of terror rather than by the balance of forces.** Thus, having considered the conflicting aims of the strategies of the two blocs, the different size, capability and characteristics of the respective military instruments, **it is necessary to make a comparison of the threats in strategic terms.**

In fact, when the forces are different and asymmetrical, it is necessary, first of all, to obtain and maintain a certain balance. And it is by comparing the threats that the agreement's imperfection comes up, (an imperfection which is admitted also by some of NATO's high authorities) as regards the Alliance's security needs.

Looking at the different options of employment of the Soviet forces in order to reach, as soon as possible, their main objective i.e. Western Europe, and analyzing the danger for the Soviet Union represented by the different means of response which NATO could employ to stop its attack, we can ask ourselves what

is most frightening for each side and therefore make a list of the threats in order of priority.

It is clear that with the present agreement NATO has promised to abolish all weapons which are most worrisome for the Soviet Union, but the agreement does not involve a reduction of the more serious threat which the Soviet forces represent for NATO and above all for the Countries of Western Europe. For this very reason, it was suggested to bind at least the last stage of the elimination of the missiles to a first stage of reduction of the conventional forces, an act which was considered too complex because it would have brought the negotiations to a deadlock. Hence it is impossible to say that the Washington agreement makes the world safer, as was rightly written in a title of the *Herald Tribune* of December 8, and it is also impossible to say that it contributes to strengthen the peaceful relationship between East and West from the point of view of the strategic balance of the respective instruments of war.

At this point, we could ask ourselves: why has the agreement been made, since it appears an imprudence if not a risk, from the point of view of the strategic balance?

The proposal made in December 1979 by NATO's authorities of not installing *Cruises* and *Pershings* if the Soviet Union was to withdraw the SS-20s, has been considered a political provocation. Has the agreement then been made only to keep faith to this political provocation, thinking that it would fall on deaf ears, as was demonstrated by the first reactions of the Kremlin leaders?

Or has it been signed for the image of the leaders of the two superpowers, both facing serious national difficulties and needing prestige abroad? Or was it a consequence of the pressure made by the pacifist movements who now consider the

agreement on the Euromissiles their own success?

POLITICAL AND PSYCHOLOGICAL ASPECTS

Maybe all the above mentioned factors have had some kind of influence, whether great or small, on the will to carry on the very difficult negotiations until the agreement was reached.

But there is a **basic factor, which I consider as fundamental**, which has influenced and will ever more continue to influence the decisions concerning the

military energy policy for the future: and that is fear, or to be more precise, the **fear of the "nuclear"**.

Up to now, this terror has played a decisive role in the maintenance of peace, but in future it could put it at stake.

We are talking of a phenomenon of mass psychology that even most politicians, who are aware of the value of the material proportion of force in the balances among Nations or coalitions of Nations, cannot but take into account. On this point, some people are rightly saying that fear of the nuclear weapon has already started the "post nuclear era", at least in the strategic-military sector.

CLASSIFICATION OF THREATS IN DECREASING ORDER OF PRIORITY

The priority is determined by combining the seriousness of the effects and the probability of realization of that type of threat.

For NATO

For the Warsaw Pact

Surprise attack by conventional forces already deployed with the support of chemical weapons.
Heavy attack by only conventional forces (after mobilization and therefore not a surprise attack).
Heavy attack by conventional forces with the support of chemical weapons.
Heavy attack by conventional forces with the support of tactical nuclear weapons.
Heavy attack by conventional forces with the support of theatre nuclear weapons (SS20-DCA).
Heavy attack by conventional forces with the support of strategic nuclear weapons (ICBM).

Nuclear retaliation attack with *Pershing II* and GLCM missiles.
Nuclear retaliation attack with DCA (dual capable aircraft) and with *Pershing IA* missiles.
Nuclear retaliation attack with ballistic and cruise missiles launched from submarines — (SLBM) and (SLCM) — and cruise missiles launched from aircraft (ALCM).
Nuclear retaliation attack with strategic missiles launched from U.S. territory (ICBM).
Resistance of conventional forces with support of nuclear tactical and chemical arms.
Resistance with only conventional forces.

INTERMEDIATE NUCLEAR MISSILES TO BE ELIMINATED

United States			
Type (single warhead)	Range Km	Number	
<i>PERSHING I-A</i> (ballistic)	750	non deployed	170
<i>PERSHING II</i> (ballistic)	1,800	deployed	120
		non deployed	127
			247
GLCM or <i>Cruise</i>	2,500	deployed	309
		non deployed	133
			442
		Total	859+
<i>PERSHING I-A</i> of the Federal Republic of Germany (ballistic)	750	deployed	72
Total	Missiles		931
Total	Warheads		931

Soviet Union			
Type (single warhead except SS-20)	Range Km	Number	
SS 23 (ballistic)	500	deployed	167
		non deployed	33
			200
SS 12/22 (ballistic)	950	deployed	220
		non deployed	506
			726
SS 4 (ballistic)	2,000	deployed	65
		non deployed	105
			170
SS 20 (ballistic with 3 warheads)	4,750	deployed	405
		non deployed	245
			650
SS 5 (ballistic)	1,800	non deployed	6
GLCM (cruise)	—	non deployed	84
Total	Missiles		1,836
Total	Warheads		2,486



A Leopard tank. The combat tank is the backbone of conventional forces.

This psychological phenomenon, connected to the terrible events of Hiroshima and Nagasaki and emphasized today by the Chernobyl accident, now includes the people's desire and the Nations' need to slow down, and if possible stop, the armament race which takes up infinite resources, and the wish to find a strategic balance with peaceful conditions, less dangerous for the future of the whole mankind.

Even the military, like us, supporters and defenders of peace, cannot but share such aspirations.

These have been the reason and motivation for NATO's proposal to give up the idea of installing the *Pershings* and *Cruises* if the Soviet Union decided to dismantle

its SS-20s. Subsequently those aspirations also gave rise to the offer of the zero option for the LRINF, even if at the beginning both proposal and offer seemed to have no prospects, so much so that they had more of a propagandistic effect than a political one.

Gorbachev, however, the new Soviet leader, not only accepted the offer but, very cleverly, made it his own. Thus he was ready to abandon the superiority already acquired and strengthened in the LRINF (contrary to all past agreements on armament control — SALT and START — which practically had only sanctioned the strong positions already reached by the Soviet Union) and therefore it was clear that the United

States and NATO could not back out. And this, even if there were many doubts on the future strategic and political effects. On the other end, NATO tried to obtain more certain and favourable results asking the Soviet Union to dismantle also the short range missiles (SRINF) — double zero option — where the superiority was even greater, and accept those on-site inspections which they had always rejected.

Maybe even Gorbachev, who intends to talk not only with the Governments but also with the Western people feels the pressure of Western public opinion and cannot draw back. It is even better to say that he thought he could obtain more important and significant advantages in the future, with the support of Western public opinion itself, if he could win its confidence as we will explain later on.

Hence, if we consider the development of the problems and negotiations on this topic (begun formally with the famous *dual track decision* taken by NATO in December '79 (2) and ended with the Washington agreement of December '87) and above all take into account the fact that it was the Soviet Union who abandoned the initial intransigent positions and then, time after time, gave up its demands (involvement of the French and British armaments, inclusion of dual capability aircraft, freeze of the SDI by the United States) together with the conditions of superiority already reached, we must consider the agreement as an important political victory both for the President of the United States and for the Atlantic Alliance. First of all, this is due to the Alliance's determination and solidarity, in the common wish of a joint defence at all costs.

The positive aspects of the treaty lie mainly in the fact that, compared to the past, it brings about two substantial changes in the trend, because:

- it creates a real, albeit limited, reduction of nuclear armaments (4%), unlike the previous agreements which only set a maximum ceiling or level which could not be exceeded;
- it establishes a strict regime of on-site controls, even without notice, which means a change of principles and mentality in the Soviet leadership which, up to now, was obsessed by the psychosis of secrecy.

These political and psychological aspects of the treaty are the origin of the favourable prospects for the future. In fact, if the agreement of the INF is loyally applied, it will noticeably increase mutual

trust, a basic element which is essential for the new agreements on disarmament and for a substantial improvement in the relationship between the two blocs.

But this will also depend on us, and above all on the European members of the Alliance, i.e. on the determination, consistency and solidarity which we will continue to show in the future for a further development of all the ongoing negotiations on disarmament, if these prospects turn into reality.

PROSPECTS FOR THE FUTURE

To some people, the prospects for the future seem very obscure, while others see them as completely positive.

Such differences do not seem to be influenced by their political and ideological leanings, but rather on whether they trust the unity and solidarity of the Alliance, especially in consideration of the peace drive which will be shortly launched by the Kremlin leader. Therefore, even those who wish to hear both sides, in order to

get an objective idea, have reasons to be doubtful and uncertain.

The pessimists think that the consequences of the agreement will inevitably lead to a kind of pacifist euphoria and therefore to the much feared *decoupling*, i.e. to the detachment of the United States with the withdrawal of its forces (conventional and non-conventional) from the Old Continent, and at the same time to the denuclearization of Western Europe. Thus, the terror of the "nuclear" which up to now has guaranteed peace, would seriously jeopardize it.

If this were the case, to avoid war the Old Continent would have no alternative but to submit to "Finlandization", unless it had the capability, courage and strength — which many doubt — to join together and face by itself the pressure of the Soviet empire.

Moreover optimists in good faith rely on the Soviet economic crisis and thus on Gorbachev's need to direct the resources from military to civilian production and obtain from the West substantial financial help to modernize its industries.

This will encourage the Soviet leadership

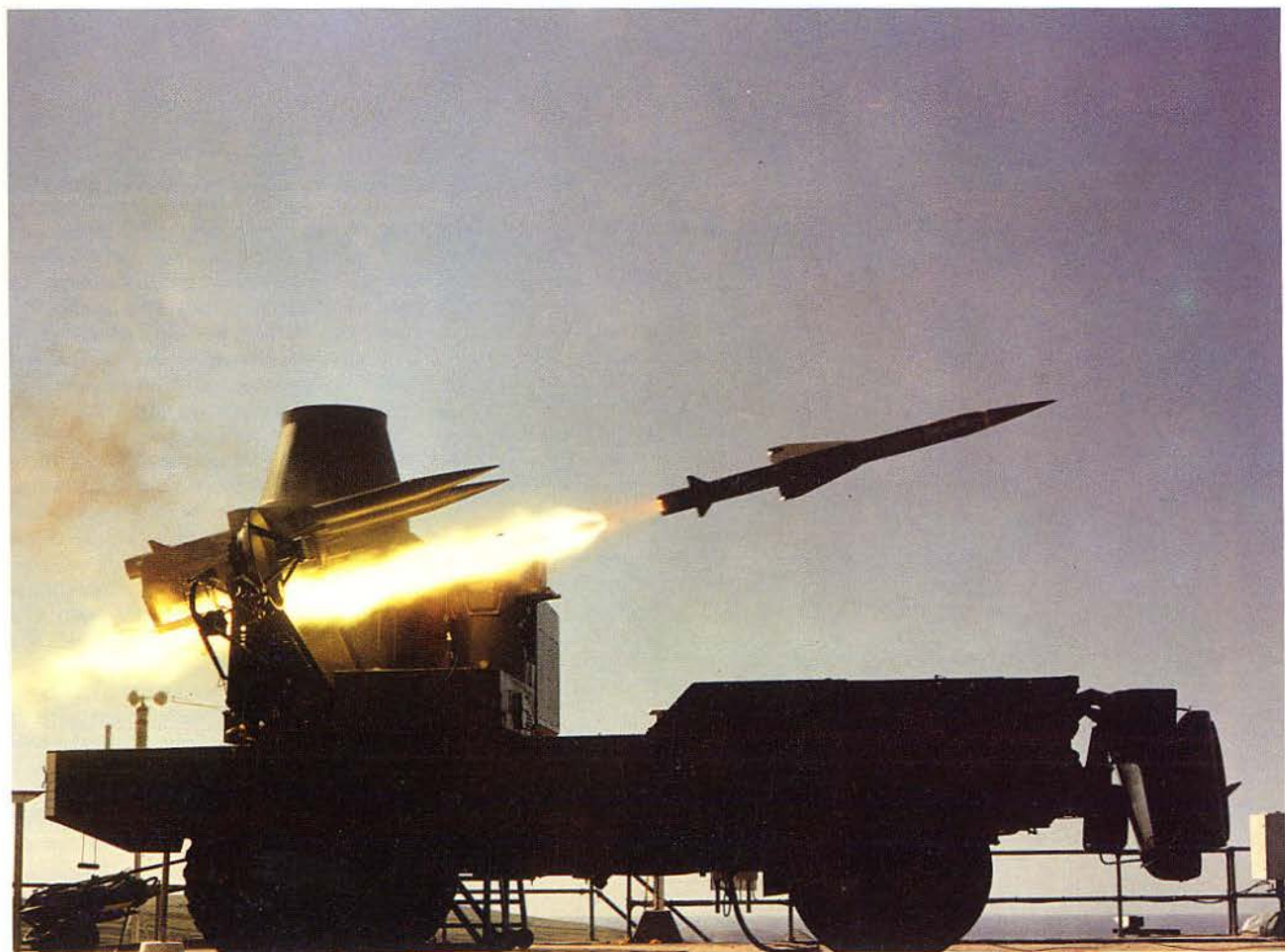
to reach as soon as possible substantially reductive agreements with the West, on disarmament and armament control, showing that it really wants to apply the new "military doctrine" enounced in Berlin in May 1987, during the Warsaw Pact meeting. It is a doctrine which would abandon the offensive strategy and the consequent need for superiority, to introduce the concept of "sufficiency" only for purely defensive aims, since the war between the capitalist West and the socialist East is no longer considered "inevitable".

In my opinion, both hypotheses are based on more or less true assumptions, backed by historical examples of a not too distant past.

As a matter of fact, the Alliance's cohesion has been strong only in the presence of a threat deeply felt by the Governments and by public opinion, while sometimes the pressure in the pacifist sense has been so strong that NATO, for example, has had to renounce, a priori, the so-called "N" bomb (neutron bomb) or in other words, the bomb with "increased radiation and reduced deflagration".

The experts considered it the best nuclear weapon for defensive use in the

"Rapier" missile system.





Italian-made multiple rocket launcher "Fimos 25".

tactical field, a weapon which was later achieved also by the Soviet Union and which nowadays, after the INF agreement, would be useful to have.

In practice, the same thing happened with chemical weapons, the production of which had been suspended by the United States for more than twenty years, while the Soviet Union continued to modernize and improve its chemical arsenal.

Analyzing the prospects from the opposite side, the optimistic viewpoint, one must consider that the first agreements on armament control (SALT) took place just when Breznev — in foreign politics — started his "détente", with the precise intention of obtaining, from both West and East (Japan) the financial and technological support necessary for the economic development of Asian Russia and for the vast exploitation of the natural resources available there, according to his plans (the process of détente was later stopped especially because of the opposition of the military hierarchy, who had seen in it a serious danger for the cohesion of Soviet

society and empire, which are always in need of an "enemy" to remain united).

In the uncertainty of the above mentioned hypotheses, there is one element which should be absolutely certain and always taken into account: **the Soviet Union cannot change its objective of dominating Europe, and therefore of disrupting NATO;** an aim which is imposed by the geostrategic and, I should add, historical context in which it finds itself. Gorbachev can change the tactics and modify the strategy but not the aim. Moreover, seeing how his predecessors have failed in forty years of "armed confrontation" and threatening political, military and ideological pressure on Western Europe, it is not hard to see why he has been induced to attempt another kind of approach and a different way, that of "a pacifist confrontation, with arms down", which should guarantee the support of Western public opinion and favour the disintegration of the Atlantic Alliance.

Another future fact is certain: in the next negotiations on disarmament, which will be more extensive, complex and difficult, **the Soviets "will not present us with anything"**. They are very clever in

negotiating, very firm in their intentions and ready to go back to the tactic of pressure, intimidation or enticement on one or the other member of the Western coalition, if they can take advantage of any gap or weakness in our political and military "deployment".

In the perspective of this new "strategy", apparently peaceful on the part of the Soviet Union, the Western parry and response would seem simple: not be enchanted by Gorbachev's proposals and continue to improve the capability of deterrence and defence with the armaments not included in the Washington agreement, in order to maintain the strategic equilibrium (or that of the threats) which guarantees peace, thus achieving the best conditions for serious and fruitful negotiations with the Soviets.

This occurred once before with the INF when, having modernized and strengthened these weapon systems with the acquisition in NATO's European arsenal of *Perishings* and *Cruises*, it later became possible, to eliminate all Euromissiles from both sides.

In brief, **NATO will have to continue to arm itself in order to make possible**

the balanced disarmament on both sides, without putting at risk the security of the Alliance. In fact, as General Rogers used to say, it is possible to reduce various types of armaments but one cannot reduce security, on the contrary it is necessary to improve it.

Is that possible? I think so. Anyhow it is not easy, also because the measures to be taken are all together more expensive, involved and complex than the process to deploy *Pershing* and *Cruise*.

In fact, within NATO an outline of the aims and objectives to be followed in the disarmament is beginning to appear with sufficient clarity:

- aim: eliminate the possibility of a large-scale surprise attack;
- objectives (in a general order of priority): eliminate chemical arms and half of the nuclear strategic weapons; reduce conventional attack weapons especially tanks, APCs and artillery; reduce other types of nuclear arms, but without reaching a total denuclearization. Even if these aims and objectives are clear, there are still doubts on whether all the nations of the Alliance will be able to cope with present and future commitments.

It is a question of strengthening the "conventional", which involves very high financial burdens, and modernizing the "nuclear", a topic which touches too deeply the sensitivity of public opinion; this is, however, what is needed to guarantee an adequate security, even when the Euromissiles are dismantled, and in this way induce the Soviets to negotiate with serious intentions (let us remember that the MBFR negotiations in Vienna for the reduction of the conventional forces in Central Europe have been going on for 14 years with no results and that now less than before they are interested in reducing them and rebalance them with NATO on the whole Continent).

There are however some positive signs which I will mention later on.

CONSEQUENCES ON THE DEFENCE ORGANIZATION AND CONDUCT

Without having to admit that the post-nuclear era has begun, as the famous American expert Edward Luttwak says in a recently published book, it is however necessary to recognize that, after the explosions of 1945 on the two Japanese cities at the end of the Second World War, the exploding nuclear energy has gradually lost most of its value for military use.

This has also been said by the Chief of the Defence General Staff, General Bisogniero, in a recent article. (3)

In fact, none of the nuclear powers have

had, up to now, the courage to use it in conflicts against non-nuclear countries, though they have sometimes found themselves in extremely difficult situations. They preferred to do without it rather than face the world's moral judgement. As an example one could mention the Korean war, Vietnam, and now Afghanistan.

After all the Western European minds have doubted whether the United States was really ready to drop its atomic bombs on the Soviet Union to stop a Soviet attack on our Continent, thus risking its own destruction.

As we know, it is for this reason too that France has decided to have its own nuclear armaments and the European rulers of NATO-Europe asked the United States to install euromissiles on their territories as instruments for a first nuclear retaliation.

Moreover NATO itself has tried to increase the value of conventional forces, after having abandoned the doctrine of "massive response" in favour of the "flexible response".

Besides, up to now, the exploding nuclear energy has had a very important "virtual" value, so much so that it has imposed a peace regime between the superpowers which compete for the world's domination; it is also impossible to exclude the fact that other countries,

which have more or less recently become nuclear powers, might use it in the future. But, as demonstrated by the Washington agreement, even this "virtual" value seems to be progressively declining.

In such a situation, a question arises within NATO: is the strategy of "flexible response" with a right to "first use" and "forward defence" still valid and applicable?

The answer of the military and political experts is: "yes".

Personally I share their opinion, but, I think that it might be necessary to modify its application, following the trend which has been going on for years, that gives greater value to the "conventional", without excluding nuclear weapons, whose "threshold", in any case, should be raised.

In this framework, there will probably have to be a substantial deepening of the defence, at least on two Defence Positions, still beginning the resistance at the border (forward defence), thus expecting to fight more defensive battles on our territory, possibly with the fire support of tactical nuclear weapon (SNF - range up to 500 Km). This will be done even before using intermediate and theatre weapons deep inside enemy territory on strategic military targets, as are the vital supply points of its offensive effort.

"Lance" surface-to-surface missile system.





Terrier-T air-to-surface missiles during an air defence exercise on the Italian Navy Flagship Vittorio Veneto during the "DRAGON HAMMER '87" Exercise.

This is a problem of great concern for the sensitivity of the Germans, for they fear that in the future their territory and that of their "brothers" beyond the curtain, could become the nuclear battlefield of the two blocs. It also concerns the controversial hypothesis of the third zero option.

Within the above also the old concept of "total defence" could be reappraised within NATO, even as a deterrent factor, to tell the Soviets that the West has the intention of fighting with all possible means, even the nuclear one included to maintain the integrity of its territory already from the borders. Moreover, if their attack should be successful in some areas and become an invasion, that territory would become another Afghanistan.

No doubt, all these problems connected to the application of the Alliance's strategy will be subject to great attention and detailed discussions in the near future, in the perspective of the INF agreement and of a vaster disarmament process.

GLOBAL EVALUATION

After the answers given to the introductory questions, I think that we may conclude the analysis as follows.

With the application of the agreement on the Euromissiles, from a military point of view NATO will neither be stronger nor weaker than before, if there is the adoption of the already foreseen possible measures to "set right" the instrument of nuclear deterrence that assures the strategic balance, which is the real peace guarantee.

But NATO can be more self-confident, because the cohesion and determination shown when facing the great issues of common security, as policy and strategy,

in relation to the opposed coalition, have guaranteed forty years of peace in Europe and have achieved an important success in the peaceful relations between the two blocs.

This offers favourable prospects for other future disarmament agreements, even in the other sectors, aiming at a strategic balance that should be more stable and less risky, with lower levels of force.

Besides, the challenge of the Soviet Union to the Western world seems to be new and different: no more political pressure on Governments, based on the threatening presence of very powerful Armed Forces, but a psychological pressure on the masses, with great and impressive proffers of peace.

It is a much less conspicuous challenge, but not less dangerous than the previous one.

In fact, if this psychological pressure could undermine the support of public opinion and of Parliaments for the Governments' prudent policy (intending to bridge, at least partly, before disarming, the gap existing in conventional and nuclear weapons), i.e. if it brought about an immediate halt to the process of modernization of the military instrument, the West would practically be on a course of unilateral disarmament, giving the Soviets a further advantage and worsening the already unstable strategic balance.

Consequently, with the new disarmament race, the Soviet Union would achieve, at no cost, what it had not obtained up to now with the armament race. Here is the ability of Gorbachev's politico-propagandistic manoeuvre and, the danger, for the Atlantic Alliance, of the Kremlin's new trend.

We can place the proposal made by Honecker, leader of East Germany, to

West Germany's Prime Minister, Kohl, a few days after the signature of the INF agreement. In this context he suggested to "freeze" the tactical nuclear armament (SNF), which has a range of less than 500 Km, at the present situation, in order to prevent NATO from modernizing its missile systems in this field in which, by the way, the Warsaw Pact has a superiority of about 16 to 1. This in view of the new negotiations on disarmament and a total elimination of these arms (a similar proposal, in a similar situation of superiority, had already been made by Breznev regarding the INF). This would mean allowing the Soviet Union to negotiate from a position of strength and take a further step towards the total denuclearization of Europe.

CONCLUSIONS

All NATO's authorities think that to accomplish the above favourable prospects, it is necessary to negotiate realistically, but first of all it is necessary to strengthen the conventional defence, avoid the total denuclearization of Europe and keep a strong bond between the two sides of the Atlantic, because only in this way will the Soviets be induced to negotiate with serious intentions, as demonstrated by the recent experience.

In short — I repeat — it is necessary to arm ourselves better in order to disarm, even if this seems a paradox.

Most of all, European countries and NATO should, in this vital moment, make the greatest effort, both financial and politico-military, to remain together and united with the United States, as has already happened in other difficult periods in the past.

There are doubts on the capacity and the political will of carrying on this effort, also because it is necessary to convince public opinion of the vital need to do so, and this is not easy since, after such a long period of peace, the public has become less sensitive to the risk of war. There are however already some encouraging signs. I will mention a few:

- the day after the signature of the Washington agreement, the Dutch Government stated its intention to keep the nuclear role of its dual-aircraft, while earlier it had declared that, with the deployment, of the Cruise missiles, that role would be discontinued;

- a few days later, the Federal Republic of Germany announced its decision to in

crease, beyond the already envisaged values, the defence budget in the new financial plan, starting in 1989;

- a similar decision had been previously taken by the United Kingdom, while the French Parliament passed the law on the defence programming, which increases the financing by almost 2/3 by the end of 1991;

- Spain too, following the example of the French Armed Forces, is fully engaged to guarantee a substantial contribution to the common defence, though it is not integrated in the NATO organization, and this represents the best increase of the Alliance's conventional defence capability;

- the representatives of the Governments of the Western European Union (WEU), who met in The Hague at the end of October, officially declared their will to create a European identity on the subject of security, consistent with NATO's efforts and recognized the fact

that only a mix of conventional and nuclear forces can guarantee it.

And what has Italy done and what can it do?

I will answer only by mentioning that, in the critical moment of the *dual track decision* of 1979, Italy was the first to approve the deployment of *Cruise* missiles on its territory and that up to now it has been one of the few countries that in the last five years have continued to increase the Defence budget by a yearly 3% in real terms, as had been agreed by NATO and the allies.

Moreover, our country is one of the last in the list of the shares of Gross National Product (GNP) to Defence (about 2.1%, equal to less than 1/2 the average of NATO countries), so that it was practically impossible to modernize and adapt the instrument to today's needs, also considering that the inflation of the cost of military material is very much higher than that of the average cost of life.

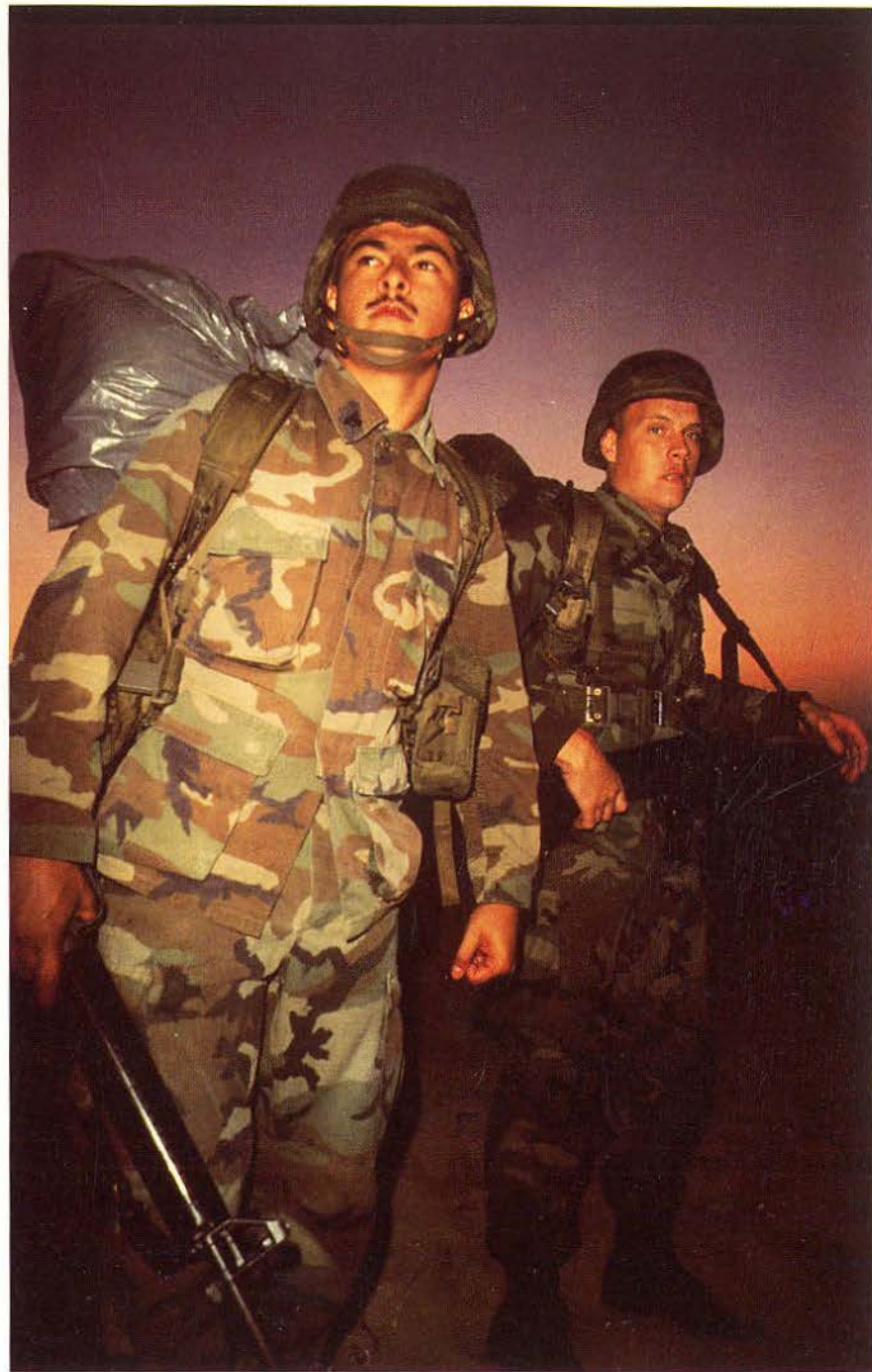
In this situation it is clear that the ordinary budgets would not allow us to stand up to our future commitments to strengthen the conventional component.

Only a special promotional law could do that.

And this could be the best demonstration of our determination to defend ourselves vis-à-vis the potential enemy, and of solidarity the allies, now give, we could facilitate the early and positive outcome of the new disarmament negotiation, as we all hope.

Lt. Gen. Vittorio Bernard

Marines of the 2nd Battalion Combat Engineers observe the amphibious landing operations at Saros Bay, Turkey.



Notes

(1) It is the same strategy Hitler applied, in the opposite way, during the Second World War: conquer the USSR's great resources to be able to defeat the British Empire and eventually face the USA.

(2) Decision to move along two tracks: start the deployment of the Pershings and Cruises and at the same time begin negotiations with the Soviets, ready to renounce the installation of the new missiles if the Soviets were to dismantle their SS-20s, to set the agreed balance of the INF at a lower level.

(3) "The evolution of the Italian Defence to face a rapidly changing world situation" by Gen. R. Bisogniero on "NATO News", October 7, 1987.

BETWEEN POLITICS

PROSPECT OF THE ITALIAN



AND DEFENCE

MILITARY SECURITY



THE POLITICAL AND MILITARY ROLE OF ITALY

At the beginning of the 80's, when we started to talk about the Italian role in the Mediterranean, the area was not very calm and the polarization of NATO's defensive system in Central Europe did not leave great initiative to the Italian Armed Forces. The components which were more sensitive to this problem were the air and naval forces because in the Alliance's general deployment they did not have an important autonomous role and felt penalized by NATO's defensive concept, which did not give sufficient importance to the aeronaval theatre of the "southern flank".

The naval threat of the Soviet Bloc in the Mediterranean was controlled by the US VI Fleet and the general task, given to the Italian Navy, of controlling the maritime routes from Gibraltar and Suez to the Italian ports, was in fact a minor one.

The Air Force too had "lost altitude". These were the times of the doctrine of the Integrated Battle, but it was clearly a play on words: it was first of all necessary to conquer the supremacy of the air-space and then integrate it with the ground components. An approximate calculation of the missions necessary for the air battle, left very little resources for the support of the air-land manoeuvre. Even these tasks were subsequently transferred to the NATO organisms in which our air forces were integrated, and the only thing left for our aeronautical pride to control independently, was the "Frecce Tricolori" acrobatic patrol.

With the subsequent doctrinal evolutions of the Extended battlefield, the Airland Battle and its NATO version, i.e. the Follow-On Forces Attack (FOFA), the problem became worse and probably the increasing number of interdiction missions, will not even leave the famous "Frecce" under national control. There



Mountain Infantry is employed for the defence of mountain areas and in rough and compartmented environments.

will certainly be a reduction in the close air support missions (CAS) which are so essential for the ground-based forces.

Therefore one way or another, NATO's "southern flank" is safely in the hands of the ground forces, and even in the potential framework of a nuclear war, the threat represented by about thirty motorized and armoured Divisions which, supporting the main attack in Central Europe, move from the Danubian districts to carry out the simple, old and reliable manoeuvre of the "resection of the peninsulae", is still, in our theatre, the only believable hypothesis of combat between the Blocs apart from the possible concurrent amphibian and air-land actions and the insubstantial threats of some African leader.

The ground forces of the Warsaw Pact are in fact dramatically present and just as

dramatically prepared to acquire the enemy territory, and ours is considered as such, even if Italy is not a neighbouring country. Despite their good intentions, the in-between countries, like Austria and Yugoslavia, do not seem able to oppose an adequate resistance to a probable advance of armoured troops. Post-Tito Yugoslavia, has problems of internal supremacy, which emphasize national differences and reduce the credibility of a defence capable of disjoining a powerful military instrument. Austria, moreover, is the result of a "miracle". Like Finland it pays a very high price for an improbable neutrality. It could not afford more than a weak protest in case a former invader, of not so long ago, wanted to pass with all its forces. Thus the bond connecting the Italian defensive system to NATO's is indeed very close, but to many the Italian role in the Alliance does not seem adequate, firstly because of the economic and

political importance achieved by the Nation, which is among the world's seven most industrialized countries, and secondly because of its primary strategic position in a highly turbulent area such as the Mediterranean and Middle East basin.

In this scenario, the forty-year-old defence model begins to be "out of date" and the desire of politicians and experts, to obtain a political and military identity in some field "away from home" with more or less multinational interventions, becomes more pressing.

These interventions however, could give rise to new doubts and tensions, for two reasons essentially. The first is tied to the **political legitimization** of a new Italian function on behalf of the international community and, above all, of NATO, when the military forces mobilized and destined to be employed within the Alliance, have to be removed from their institutional tasks to be employed in areas

where other countries (belonging to the Alliance or not) have interests which need to be safeguarded.

The second one, which is more general, concerns **military policy**. It does not seem to be so explicit to define the role Italy wants to give itself in terms of security. It does not have an organic and co-ordinated structure. There are no objectives, purposes and aims. Hence the available instruments cannot be theoretically verified and any expression of autonomous expression appears to be risky if not ambitious.

It has been often said that this depends on an unclear definition of foreign policy, from which the military policy depends. It is not so, or at least it is not always so. In the sector of national security, foreign policy has a role which is equal to the military one; indeed, it can be said that there is no global view of safety, and for this very reason foreign, national and military policies, inevitably lack co-ordination.

The definition of security policy, in the absence of a single individual (in the United States the President, assisted by national security, is the only person responsible) is a responsibility of the Government as a whole. It is certainly not a simple way, but the body exists and the important thing is to make it work. But it is necessary to avoid giving it, apart from the **responsibility of co-ordination and definition, also the burden of determining the security needs** in the various sectors.

Every branch, from the industrial to the military, has the duty to inform the Government of its maximum and minimum needs and options.

This is the only way to define a security policy capable of assuring a coherent position in the international setting and an economic and social development co-ordinated on the internal plane.

It is not up to the military to indicate the characteristics of the foreign policy to be followed, the industrial objectives to be achieved or the level of prosperity to be obtained. It is not right, however, for those who have specific knowledge and are well acquainted with the actual problems, not to offer their help and expect to be listened when all the rest is an absolute void.

Another problem must be added to the two essential factors (**international legitimization and definition of the security policy**) which cannot be excluded from the new role. This is the **technical-military issue relating to the type and size of forces needed to demonstrate this politico-military autonomous position**. The main thing is to decide the other needs in a situation made up of delicate balances and limited resources when the available forces have already been tasked with well-defined missions.

BASIC TACTICAL COMPONENTS OF OPERATIONS

As for the ground forces, in the framework of the modern defensive needs of a territory, the roles of the tactical components of combat, are well defined.

Generally speaking, they can be divided into:

Basic components:

- armour (tank and mechanized units): destined to operate on grounds which allow and make the most of the use of their vehicles and the manouevres against similar forces. They give life to flexible, powerful and economic units (in the operational sense) as long as the territory and the nature of the contrasting forces allow it. They usually fight from their vehicles;

- non-mechanized Infantry (or infantry *tout court*): they operate on ground which does not permit the use of armoured

vehicles or which makes it too expensive and not very dynamic. They adjust to any type of ground, enemy forces and operational environment. They can take advantage of various transport possibilities, whether organic or in reinforcement, but they fight mainly on foot. In highly inhabited territories (villages, cultivated fields, communication routes etc.) they can realize effective anti-tank and anti-infantry defences using the grid defence.

- special Infantry (or specialities): they are fit for very particular tasks, situations and terrains. They express their best qualities in the conditions for which they have been created. This is why they cannot be "deprived of their individuality". Moreover, the fact that they are given different functions or so-called "polyvalences", has a strong influence on their operational capability.

Because of her territorial peculiarities and traditions, Italy has probably the highest number of special Infantry in the world. Anyhow, in modern functional terms, the following requirements can still be justified:

- mountain Infantry: to defend mountain areas and be employed in difficult natural environments;

- paratroop Infantry: for the strategic or tactical operations requiring airdrops (*conditio sine qua non*);

- amphibious Infantry: for operations in that specific environment.

To the above mentioned types, it is necessary to add the **high-mobility Infantry**, for a rapid use in Army Corps sectors or in some sensitive areas of the territory. It is not really a new function (the Bersaglieri were "invented" for this very reason) but the extreme fluidity of modern combat, in time and space, has emphasized its necessity. Such forces give the High Commanders the chance to intervene directly in the battle

Paratroops are employed in strategic and tactic operations requiring airdrops.

with means which guarantee the saturation of "dynamic" empty spaces, the control of enemy formations in their area of responsibility and the security of the command and control system.

Supports:

some (such as Artillery, Engineers, Signal, Anti-aircraft Artillery and Army Aviation) guarantee and increase the power and efficacy of the basic components. Others carry out special tasks such as military police, military intelligence, electronic warfare, data processing, rangers, and psychological warfare. Finally, others assure a technico-logistic support in the various activities concerning personnel and material.

The military land instruments are formed by gauging and "mixing" basic components and supports (1) in relation to the territory in which they have to operate, the enemy, the doctrine employed and the available resources.

LIGHT INFANTRY AND FIR (Rapid Intervention Force)

From a purely technical and military point of view, all the components which have been described so far, seem to satisfy the operational needs of any country.

And what about light Infantry? There is a lot of talk about it, but it has not been mentioned in the previous list.

Therefore some questions come up spontaneously: what is light Infantry today? Is it a different name for something which already exists? Why is there an ever growing interest for it?

By a simple analysis, to see how it differs from the above mentioned components, we could answer the first two questions by saying **what light**



Infantry is not.

It is not a force which has been structured in relation to the restraints imposed by the terrain or by the operational situation. In fact we have seen that a terrain particularly connected to a permanent or highly probable operational requirement, gives life to a speciality (2).

It is not a non-mechanized Infantry. Because of the specific way in which it fits the terrain on which it operates, the type of available transport (wheeled, armoured, heavy and/or protected tracked vehicles), the equipment, training and logistic autonomy, this type of Infantry is everything but "light".

It is not a high-mobility Infantry or at least it cannot be

just that. In fact, to act effectively in the Army Corps or in the Military Region, this type of Infantry needs to be highly flexible but always in a range of possible employments which can actually be carried out according to the specific sector and threat. In terms of "weight" it can be light only in certain circumstances, which anyhow cannot affect beforehand its planning and use.

It is not a force for forward defence in a static framework.

It could defend the areas behind the front but only when there is great availability of it and after having guaranteed the forward defence. So by a simple process of elimination, it is possible to find the definition of the only function carried out



by the modern light Infantry.

A set of forces fitted with light arms and equipment, with limited initial logistic autonomy, but capable of achieving great operational autonomy because it has the capability for survival in various natural environments and also large availability of support. It can temporarily oppose limited armoured and motorized threats or it can lead a co-ordinated joint action or fight in a situation of isolation; H-24 ready, mobile, flexible, fitted with command and control systems which can be integrated in any national and international operative network.

This definition now describes clearly enough that light Infantry is the basic land component of the Rapid

Intervention Force (FIR). Only this force does not have a priori clearly defined missions and needs to be just as reliable as they have to be flexible to be quickly employed in the whole national territory and even outside it.

But there is more, and here it is possible to answer the third question. While there is a general apathy regarding general operational problems, there is often more and more favourable talk on light Infantry and FIR, because they are not so really tied to specific technical and military requirements, but they are closely connected with more general requirements of military policy, even if sometimes these are vague, possibilist and even

over-ambitious. These last characteristics should be considered negative, but (power and baseness of politics!) they also serve very well to excite certain sectors of public opinion and to obtain various different kinds of approvals

THE INTERNATIONAL FRAMEWORK OF REFERENCE

At a time like the present, when there are discussions on the new size of the Army, when there are plans for new types of elementary Major Units and when completely new types of military co-operation are achieved in the international field, it is necessary to make a very careful and brave analysis of the real necessities of the country in an international framework of reference which, in these last few years, has been offering ideas for great innovations.

The contrast between the blocs is still greatly emphasized, military are more powerful than ever before but, at the same time, on both sides there are efforts to create a security screen without giving up the unilateral prospects of power.

The following are the main points of this global picture:

- the attempts to reduce nuclear armaments, which mean leaving behind a logic as deep-rooted as it is perverse, which from a simple violation of borders could bring to MAD (Mutual Assured Destruction);
- the revaluation of conventional armaments which brings a possible armed conflict back to a "more human" level, though it increases the risk of subnuclear conflicts and does not reduce their lethality (as for their effects, the modern conventional systems are in no way inferior to nuclear weapons);
- the search for measures which will bring to greater mutual confidence, which, with the Stockholm agreements have made a remarkable step forward;

The Rapid Intervention Force avails itself of adequate transportations, personnel trained for a wide range of employments, sophisticated armament, and an autonomous/integrable command and control system.

- the multilateral efforts to stabilize the "hot areas" in the Mediterranean and the Middle East;
- the attempts to build a European pole with autonomous interlocutory capability also in the military sector;
- the studies on the **concept and realization of non-provocative defensive systems**, or, more generally, of a Non Offensive Defence (NOD).

All this is important and now, more than ever, politics and defence have to be considered in a global context.

MILITARY POLICY AND SECURITY

There is a very vast range of options relative to the construction of a security model available to every country.

Nevertheless, the following general cases can be identified:

- if a nation thinks it needs only a defensive military instrument, limited to the operating range of its own territory, it has two ways of solving the problem:
 - examine the territory, evaluate the threat, choose the most appropriate defence and allocate the necessary resources to realize it. Every part of the territory will have the most suitable forces to defend it.

It is the ideal and maybe also utopian condition. Considering the costs of armaments and the technological innovations there is no nation capable of doing it in full.

There is not much space for FIR, but non-provocative defences can be set up by basing them on non-motorized infantry grid systems, permanent fortifications, antitank obstacles etc. The employment of the armoured forces could be limited to counter-attacks or

other dynamic actions.

- In the most frequent case, i.e. when there are not enough resources to form and keep a "specialized" instrument, it is necessary to limit the specialization to the areas in which the threat is greater, give more possible tasks to the same units and set up flexible reserves. In this situation it is possible to turn to the FIR, but in a regime with scarce resources these forces have a limited range of action, operational difficulties and scarce credibility.

Italy finds itself in this situation since there have been talks of possible threats from

"all sides" without having established a clear military policy. Therefore, presently, there is a specialized instrument at the land border, while in the rest of the territory there are mechanized units which owe such characteristics more to economic reasons than to operational requirements.

Today's FIR reflects the labour of thought and material which was needed to create it. The missions have been increased, the forces have remained the same (or have been reduced) and new resources have not been allocated. Technically speaking, the new operational problems



are solved all the same by assigning new tasks to units which are already employed, but certainly these compromise solutions do not represent the forces which would eventually be necessary, while their effectiveness depends more on the individual efforts than on their structural reliability.

- The establishment of FIR becomes an imperative when a nation recognizes its role in military policy beyond the limits of its own territory, and bases its political survival and credibility on the **projection of power** in a certain area of interest. The projection of power, which in theory can be achieved even without moving the forces, therefore becomes feasible only through the physical projection of the instrument of pressure.

In this case it is impossible to economize, to compromise or to adopt "third world" solutions. It is necessary to renounce a priori a strictly defensive and "non-provocative" choice to take up a role which implies — under penalty of nullity and ridicule of the whole system — **external objectives, determination in pursuing them, adequate forces to reach them.**

In this situation, FIR is constantly a joint force (or, rather, a "supraforce") and must rely on:

- means of transport technically and numerically adequate to the movements and possible actions in the area of interest (which, according to the level of geo-political involvement, can be either local, regional or global);
- trained personnel for a vast range of tasks and operationally ready (long-term personnel-trained and replaced by "ad hoc" units or professionals); service with ad hoc or professionals
- powerful and lightweight sophisticated weapons;
- limited logistic load, but constant flow of supplies capable of reaching even the most isolated components;
- autonomous system of command and control,

integrable in the various national and international operative systems.

A force like this is not cheap, on the contrary it implies costs which can be borne only by countries with large resources.

The United States is already in possession of a similar airborne force, the Rapid Deployment Force (RDF), but is not happy with it.

The strategic mobility is not 100% adequate and the tactical capability needs pre-positioned vehicles and materials. The Soviet Union's FIR is much more complex and powerful (3).

Thus, the second case prefigures superpower roles which no nation can keep up autonomously, with the exception of the United States, the Soviet Union and, if and when, China.

For these "big ones" FIR has a global function also and above all in a regime of nuclear reductions or SDI (Strategic Defence Initiative). This kind of forces can in fact become substitutes for short and medium range nuclear weapons and they can allow both the development of autonomous actions and the inclusion in co-operation plans.

But even for the superpowers it is not easy to manage global security independently. While the resources can allow great initiatives from a military point of view, from a political viewpoint there is always the need of integrating the efforts, especially in the Western bloc. On this account one should consider the frequent American appeal to the Allies to take on a fair share of responsibility, and the attempts to establish a European military pole.

A POSSIBLE ITALIAN MODEL

It is therefore possible to imagine a situation of compromise in which Italy and other nations can obtain and justify greater political and

strategic roles without seeming overambitious or affected by unjustified megalomania.

But what has to be achieved is only **international cooperation.**

No doubt in this case it will be necessary to renounce part of the sovereign power: that which derives from the use of all possible means to defend national interests.

It is unthinkable that this use can be entirely delegated to others, whether allies or friends.

It is also true that, in terms of reality, no nation can have the right to shake delicate balances, creating the possibility of world crises, only for the sake of exercising a politico-military role of its own, not included within international cooperation. It is a kind of self-restriction, dictated by the realistic realization of facts and therefore for Italy the following general principles can be established:

The assumption of an autonomous politico-military role in any area of the world is unjustified and untenable.

On the other hand it is necessary to adopt a role, proportioned to the politico-economic, and geo-strategic character of the country, within the framework of the alliances and of the possible agreements in relation to the security policy:

The defence of territory is an essentially national factor and must be seen in a unitary framework in view of the changes in the reference international scenery.

Hence, the subdivision of the defensive system in fighting and territorial areas and the distribution of national and NATO responsibilities, have no reason to exist;

The defence of national interests outside the territory, cannot exclude international balances and therefore must be regulated by supranational organisms.

The interforce missions established by the "White Paper" should therefore be

Non-mechanized Infantry is suitable for any type of terrain, enemy and operational environment, and operates where armoured units cannot be employed.

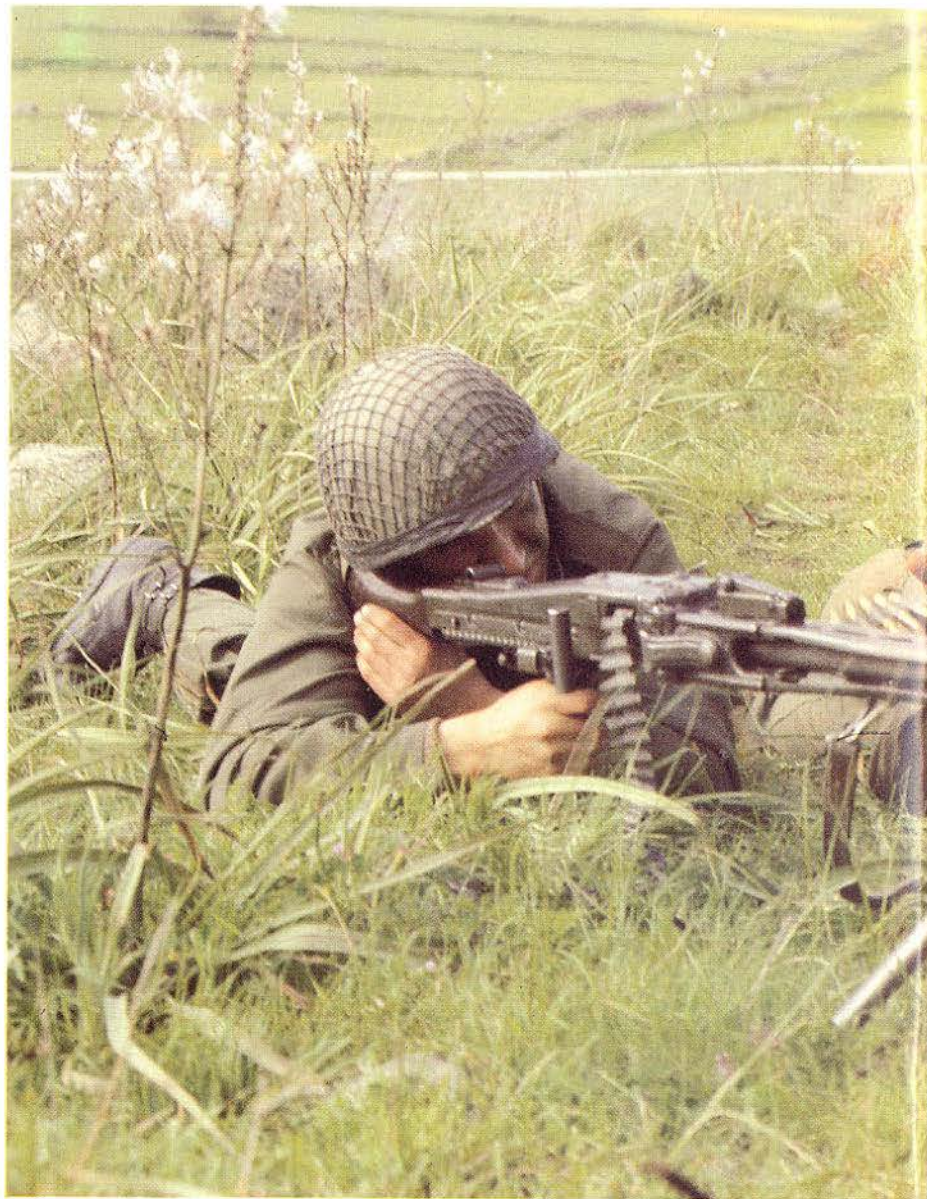
reviewed in the light of these principles.

The military instrument should be divided into two **main components**: one relative to the conventional problem of the defence of the borders, the other relative to the participation in international or supranational security missions (within the Alliance, in the framework of multinational agreements or within the UN) in an area of interest which could be identified in the Mediterranean and the Middle East.

In the first case, there can be a motivation and a justification for the measures taken to reevaluate the conventional instrument, still adopting a defence adequate to the national needs. In the second case there is place for a FIR of such dimensions and capabilities that it would be sufficient to autonomously face local emergencies, but it would need adequate international cooperation and integration for any role of a regional level.

The first component would therefore be only a national responsibility. There will have to be operational and doctrinal measures for the coordination with other nations of the Alliance, but the defence of the Northeastern sector should be integrated with that of the remaining territory also as far as responsibilities are concerned. The Defence General Staff could become the real coordinator of the defence instrument, acting as an intermediary between the allied structure and the Chiefs of Staff, each of whom should be given the command of the respective Service.

The Defence technical management would thus be jointly directed by the Chiefs of Staff Committee and by the organs in charge of Civil Defence.



The second component (FIR), is geared to the strategic and tactical missions of cooperation in a theatre within the framework of the Alliance. It should necessarily be subordinate to an allied structure which, for the politico-military and technical operational aspects, should be in close contact with the Defence General Staff.

CONCLUSIONS

International framework, fair share, need to "show the flag", economic interest related to the national industrial dimension, zero options, revaluation of the

European military pole, all these points lead, practically by force, to a solution similar to that which has just been mentioned. They also make one think, at least at an operational level, of the possible creation of a "fourth service" of international dimensions.

There are still the problems of resources and of the internal consent. In a strict and pragmatic logic, if one accepts the preliminary point (**real requirements**) one must also accept the conclusions (**resources and consent**). But this is not the case for Italy. In our country the art of adaptation has evolved in the "science of managing



somehow" and often we see structural solutions which, following temporary pressures or false needs, "make a permanent mess" of simple situations. On the other hand the two parameters — resources and consent — are essential. The former, for the accomplishment of something serious, the latter for the maintainance of the democratic character which every military instrument must have in Italy and to avoid humiliating "seesaws" when decisions have to be taken during the management of crises.

Anyhow, as for the resources, the rationalization of the conventional instrument,

whether naval or airland in strictly defensive terms, would permit the creation of a FIR adequate to the needs and would no doubt be approved by all political and social forces interested in finding a serious solution to the problem. As for the approval, it should not be lacking initiatives aimed at guaranteeing:

- full national autonomy at local level and in the defence of the territory;
- a regional policy integrated in a framework of international cooperation;
- the contribution to the increase in the mutual confidence between the blocs through the creation, on the

national territory, of defences which cannot be perceived as "provocative";

- the reinforcement of the alliances' framework, through specialized interventions;
- the most appropriate use of resources and of the available military instruments;
- the international justification of the interventions outside the borders;
- the real possibility of establishing elite plurinational units or even a European army, tasked to act as politico-strategic deterrent and operational instrument.

Col. Fabio Mini

NOTE

(1) Some particular speculations can even include a support in the group of basic components. Recent defence studies carried out by the Max Planck Institute (FRG) show, for example, the possibility of creating "non-offensive" defences by controlling the territory with militia units and the extensive use of smart-ammunition artillery.

(2) Historically speaking it is the case of the Alpini but, from an operational point of view, of the armoured troops too.

(3) For more information on the different FIRs, see Rivista Militare no. 2/1987 "Operational readiness" by Gen. Luigi Innecco.

BETWEEN POLITICS AND DEFENCE

Prospect of the Italian military security



THE CONTRIBUTION OF TO CIVIL PROTECTION





THE ARMY

Present Italian military doctrines have a modern view of the idea of global defence of the territory; global defence, that is, designed as engagement of the Army in the forecast and prevention of natural calamities and in works for the safeguard of the environment together with the better known and larger task of assisting populations struck by calamities as recently happened in Lombardy and Alto Adige.

Within the activities for the safeguard of the environment and the forecast and prevention of natural calamities the Army has taken multifarious initiatives fully in line with its institutional aims.

Among the most important activities I would like to underline the following:

- the network for seismic observation established by the Army — as a result of its co-operation with the National Institute of Geophysics — in Veneto, Tuscany, Sardinia, Sicily and Lampedusa through the placing of appropriate sensors at the junctions of the army and the transmission of data through the military telephonic network. The possibility of enlarging this network including the Seismologic Centre of the Malta University is at present being studied;

- The Meteomont Service, established in the winter of 72/73 for military aims exclusively, is now of the utmost importance at national level.

This service is carried out annually by the 4th Alpine Army Corps in co-operation with the meteo Service of the Military Air Force and with the State Forest Corps to obtain the necessary information on the state of danger of the snow cloak and to process together with the Military Geographic Institute, the «monographies of avalanches»;

- The activity carried out by the Military Geographic Institute. Particularly important in this field is the geodetic survey of the Institute for



topocartographic survey in the study of natural phenomena: earthquakes, subsidency, bradyseism, novements regarding the earth's crust. Mention must be made of the support supplied by the Italian Military Geographic Institute to the safeguard of the environment such as the geodetic control of the movement of the coasts of Calabria and Sicily, the control of the stability of the Tower of Pisa, the detection of vertical movements in Piceno, soil control in Friuli, the subsidency of Venice and the bradyseism of the region of Naples.

Besides the above mentioned activities and services other similarly important activities are carried out by the Army.

Among these we must remember the following:

- the activity of study, analysis, planning and third party support which basically consists in helitransport of technical personnel designed to

carry out surveys and research from above aimed at safeguarding the environment;
 ● the interventions of the Military Engineers Corps which, besides satisfying several requests connected to the institutional tasks, has always been engaged in the specific sector of the safeguard of the environment.

I would here like to mention one of the most important operations carried out recently such as the establishment of two artificial basins designed to gather meteoric waters to act as fire extinguishers in the presidential estate of Castelporziano, considered a high risk area;
 ● the fire service carried out by helicopters equipped for the transport of water and delaying liquid; mention must also be made of the parallel land operations performed by the military units of all the Arms and specialised branches together with the Firemen;
 ● the safeguard of the

Architectural Estate which has seen a great number of recruits — mostly engineers, architects and surveyors — together with Archeologists of the Archeologic Super-Intendency of Naples and Caserta, carry out in a short time, a very detailed survey of all the structures required by the Archeologic premises of Pompei. This has an enormous scientific importance which has increased the interest in the national archeologic estate;
 ● the activity for the safeguard of the faunistic balance. In this field too the Army worked with success carrying out, in a short time, an operation of faunistic re-balance. With the help of military personnel, deers and roe-bucks were gathered together and taken, with the necessary care and attention, from one area to another in the National park of Abruzzo and in the area of Livorno.

The Army, however, proves an unreplaceable means of civil protection in the activity of assistance in emergency



situations of particular seriousness.

The readiness of the intervention, the deployment of special technical means, the commitment of men and the excellent organisation make the Armed Force a point of reference on which to count.

The experience obtained during the intervention in Friuli and in Campania-Basilicata allow the Army to look ahead with a rigorously methodic planning of future interventions which has required long and detailed study.

In fact, the development of macro-emergencies has taught us that the work of assistance and support to damaged populations requires three kinds of interventions in three subsequent stages:

- **first stage:** rescue and assistance by immediate interventions and initiative;
- **second stage:** that of survival by interventions designed to supply the

population with qualified assistance and housing;

- **third stage:** of consolidation through interventions designed to restore a normal situation.

For the above reasons the Ready Intervention Force (Fo.P.I.) was established, capable of assuring a qualified intervention — especially in the second stage — on all the national territory in case of public calamities.

It is a joint force group formed by operational units chosen among those already existing, appropriately trained and equipped with particular means, designed to integrate the organisation established on the moment by the Military Region concerned by the event.

This force forms the linking ring between the ready intervention of the local forces (first stage) and the mass intervention (second stage) requiring more time and therefore designed to remain in the area of intervention for a limited lapse of time. The

Ready Intervention Force — centred on a Brigade headquarters already existing in Central Italy and therefore in a barycentric position — is formed by a land component, with operational and specialised (engineers corps) «pawns», a naval and amphibious group and an air group.

Specific training — designed to give Fo.P.I. readiness of intervention and the highest suitability to operate efficiently in the areas struck by calamity — is carried out on the basis of a pre-organised planning of real scenarios.

Besides the Fo.P.I., which rightly represents the pride of the Armed Forces, other support activities are carried out daily by other bodies of the Army in the field of civil protection.

Among the above I would like to mention the Self-sufficient Task Force for the Recovery of the Movable Property of Civil Protection with the task of recovering, repairing



and stocking in definitive areas the housing units distributed to the population struck by seisms in 1976, 1980 and 1984.

From its establishment to our days the above Force has recovered over 30 thousand housing units, it has repaired about 7 thousand and has, subsequently, stocked them on different areas of the national territory to guarantee quick and well-aimed interventions.

Among the assistance activities I would like to mention the work carried out by the Army as regards water emergency. During 1987 and the early months of this year, several tanks have been installed and several tankers have been employed to bring water support to the populations of Agrigento, Enna,

Trapani and Naples who lacked water and to people of certain municipalities of the provinces of Pordenone and Vicenza due to pollution of the water-bearing strata.

I cannot, however, conclude this brief survey without mentioning the main interventions in favour of the people struck by natural calamity, carried out by the Army in 1987; these required a remarkable effort to face the snow falls during the winter months and the bad weather in Lombardy and Alto Adige.

In Valtellina the exceptional bad weather conditions of mid July caused various floods, road interruptions and landslides one of which, of enormous proportions, buried some villages of the municipality of

Sant'Antonio Morignone (Sondrio), blocking the course of the Adda river and creating a lake, in Val Pola, of over 15 million cubic metres of water. In that same period, the abundant rainfall in Alto Adige caused vast floodings and interruptions in Val Brembana, Val d'Adige, Val Venosta and Val Passiria isolating many inhabited areas. The work of the 3rd and 4th Army Corps units employed for the above went on for over two months, from July 18th to the end of September, 1987 and, upto that date, implied an engagement of remarkable dimensions. The activity of ALE (Light Aviation of the Army) must here be mentioned. On this occasion, it allowed foodstuff and goods of first necessity to reach people living



in areas which could not have been reached otherwise. it transported over 1.200 tons of materials and 9.000 people. Mention must be made of the Ch-47 helitransport of pipes for the building of a pipeline to empty the Val Pola lake which sometimes required to employ the aircraft almost beyond its technical capabilities.

During the above operations seven Bailey bridges were cast in several localities in order to restore the interrupted viability. Again, this activity testified the valid contribution the Engineer Corps is able to supply the Nation.

In Valtellina, moreover, a high technologic contribution was supplied by the Military Geographic Institute with the use of sophisticated equipment

which, installed on the Val Pola landslide, permitted to readily detect eventual movements of the sliding mass thus allowing those working at the bottom of the valley to empty the lake, to operate in conditions of safety.

I shall now conclude as following:

Faced as we are by environmental and ecologic debasement becoming more and more evident and alarming, the establishment of a mutual culture as regards the safety of the territory becomes absolutely necessary. This must become the heritage of everyone in a chorality of thought and action favouring civic and social solidarity.

I here wish to acknowledge that the Armed Forces — and

especially the Army — with their contribution in work and thought, represent the indispensable element for the creation of the above culture.

The populations struck by the various calamities look onto the Army with gratitude and admiration; the entire Nation looks at the Army aware that the Armed Force is a credible stronghold and a sure response to the increasing demands of safety rising from our country.

Remo Gaspari

SELENIA. A LEADER IN DEFENCE SYSTEMS



Today's lethal threats and the vast, rapidly increasing amounts of information that must be handled in the event of conflict, require modern integrated defence systems, with a high degree of survivability.

Over thirty years of active involvement in major defence projects, have given Selenia a profound understanding of the complex needs of such systems, as well as the capability to provide solutions through an in-depth systems approach.

Selenia's **Defence Systems Division** implements military systems on a turn-key basis, using its wide systems experience and its own products in the fields of C³I, Surveillance, Missiles, Electronic Warfare, Avionics and Electron optics.

Selenia technology and products of today already meet tomorrow's defence requirements



Defence Systems Division

Via Tiburtina km 12,400 - 00131 Rome, Italy
Telex: 613690 SELROM I - Phone: (06) 4360 2890



RAGGRUPPAMENTO
SELENIA ELSAG

IRI GROUP



SCIENTIFIC RESEARCH

IN ITALY OF INTEREST TO THE ARMY



I believe we may say that in all times the techniques and technology employed in systems of defence have represented the most advanced peak of «technical knowledge» of that age; I do not know what the hidden reasons for this really are, but I imagine that among these, three at least are of the utmost importance:

- The first, perhaps, is that one's own defence, which in many cases means one's own survival, is the prioritarian demand, I would even say a preexisting condition needed to satisfy all the other requirements: thus, much attention, care, human and financial resources have always been employed in this field.

- The second is that, being these resources spent in a well-aimed manner, the effectiveness of such an investment has generally been very high. I believe that in modern times we may quote an only example of well-aimed technical and scientific effort — outside the military field, but with comparable results—: that of the Apollo programme which sent man to the Moon; this certainly has many similarities with military programmes,... and perhaps some mutual ascendancy.

● The third is that in the innovations for defence, the *antagonist* (that is that thing which represents the spur to improve), in this case the real or potential enemy, is *dynamic*: not a static obstacle to be overcome. Not the great ocean to be crossed, not the inter-planetary space to be conquered: enormous, but always the same.

An antagonist which changes, improves more or less as I do and thus makes me do always better and more.

Whatever the causes, this phenomenon, the continuous change, indeed accelerated, is one of the basic characteristics of products for the defence; thus the quantity and quality of investments in research and development, main instrument (though not the only one, as we shall see further) of innovation, become a very significant means of testing the state of health of the «defence System» of a nation; and even more a means with which to anticipate the chances of life and future survival.

Moreover, acceleration means that what has been done in the past is no longer sufficient in the present and will be wholly inadequate in the future: as already said, this is not only true of the quantity of Research and Development, but even more of the quality and the organisation required to face it.

Before anticipating considerations which may represent a conclusion, let us see what the situation in Italy is today and where we stand within the industrialised countries of the West.

RESEARCH IN ITALY

Nowadays, in Italy, expenditure for research reaches about 1.5% of the Gross National Product (just over 13 thousand billion lire in 1987).

If we look at the trend of the last 10-12 years and compare it with other countries such as France, Great Britain,

Germany and also Japan and the United States, we immediately realise that Italian research is the most neglected.

For the sake of accuracy, the term research previously used must be understood in its wider and general significance of Research and Development (including the making of prototypes), and not only as scientific research designed for the acquisition of pure technology which represents a minor share of the entire expenditure.

Military Research and Development too is at lower levels than in other countries, France and the United States in particular.

In recent years expenditure for military research has been around 2.8% of the budget for the defence (400 billion lire in 1985, 500 in 1987).

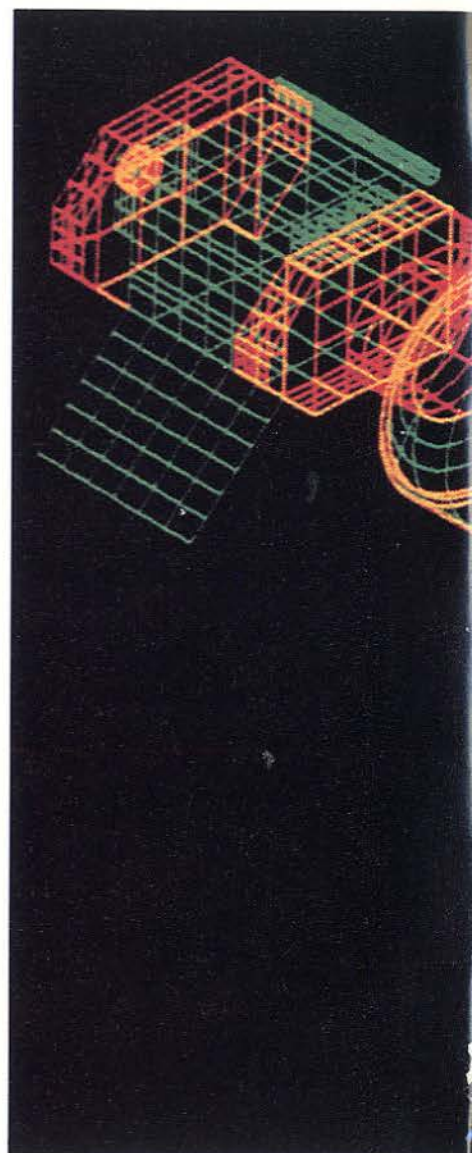
We must note, however, that in 1988 there will be an important increase, to about 900 billion lire.

This is a considerable leap (we hope it is not a peak, but a trend designed to consolidate), which brings the per cent rate of Research and Development as regards the Budget for the Defence to 4.5%.

To this figure we must add another 400-500 billion lire of the firms' self-financing, the IMI fund for technologic innovation and the MICA rotation fund.

The above data inform us that as regards quantity, the investment for innovation in general, and particularly the country's investment for innovations in the military field is far lower than in military allied countries which are also our allies/competitors in the economic/industrial field.

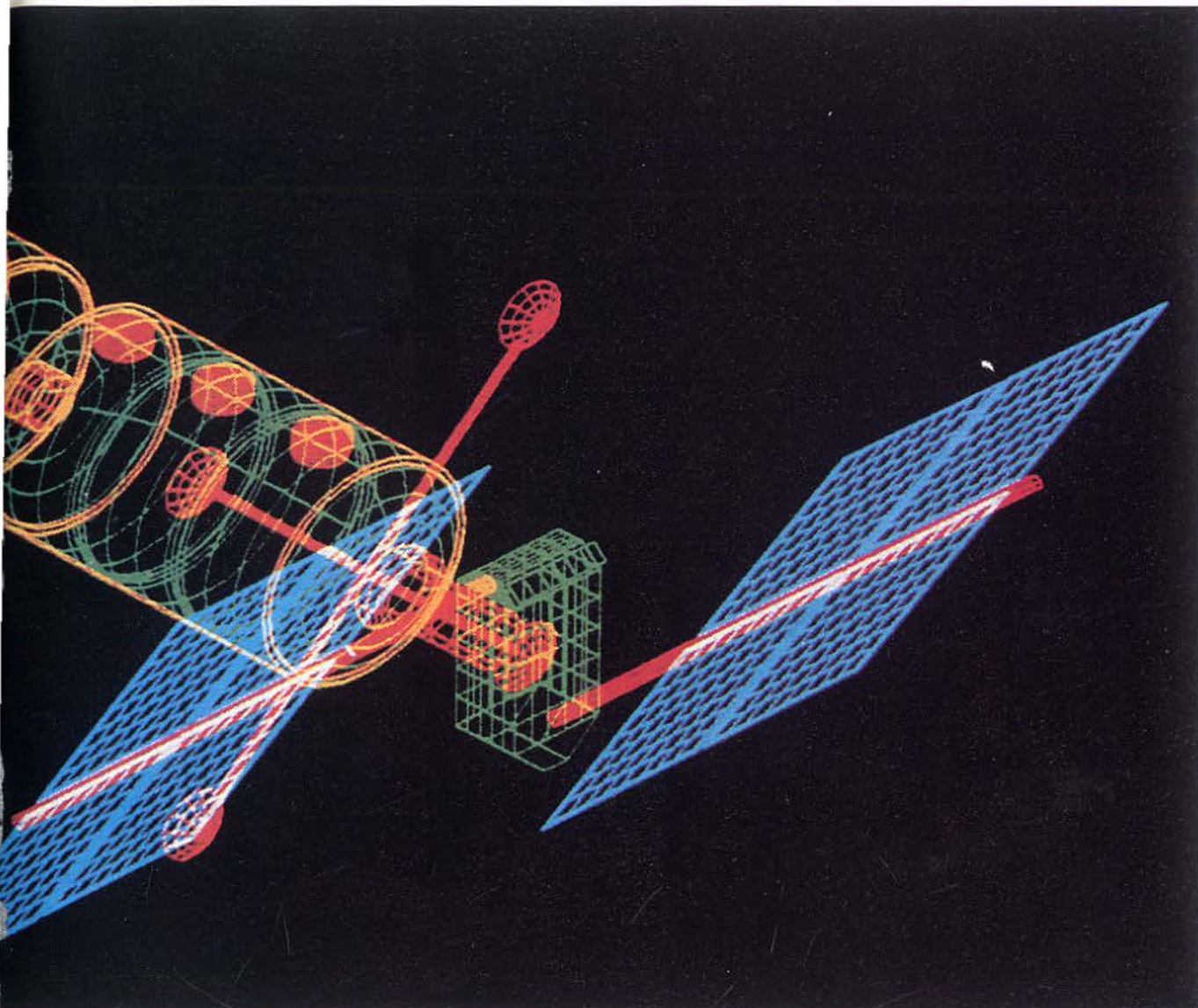
Though precise data regarding the quality of investments is not available, we may state that the number of boards assigning the funds and the number of boards using them (industries, universities, various boards of research) split up expenditure probably more than our above mentioned partners.



The result of all this is that in our country on the average, technologic development is probably inferior to that of our most important military/commercial partners of the Western world: what is even worse is that as the investment rate remains inferior, the gap between us and them will without any doubt increase.

The reason I use the expression «on the average» is that in fact the actual situation differs greatly from area to area.

Thus, in certain fields we are better off than figures indicate; in certain limited areas we reach a degree of excellency at international level; in many areas, the situation is



extremely serious. It may be instructive to examine some of the above and analyse the facts that have made us excel in certain fields.

As an example, I shall examine the ones I know better.

The technologic fields I intend examining are those which, according to me, concern the Italian Army for they are connected with its specific missions within joint force operations and with the development of the general strategic situation.

I must however underline that, as shown by the experience of recent years, advanced technology is usually the mutual basis of the three Armed Forces for the

achievement of specific renewal programmes and therefore its acquisition must be seen within the situation of joint forces.

I shall briefly speak of the following areas:

- **C3 I systemistics;**
- **Missile systemistics;**
- **Technology and radar sensors;**
- **Technology and electro-optic sensors;**
- **Artificial intelligence and expert systems.**

In the last twenty five years Italy has progressed greatly in the above fields; the main achievements (table 2 and 3) are a heritage of great importance even if, as mentioned above, we must

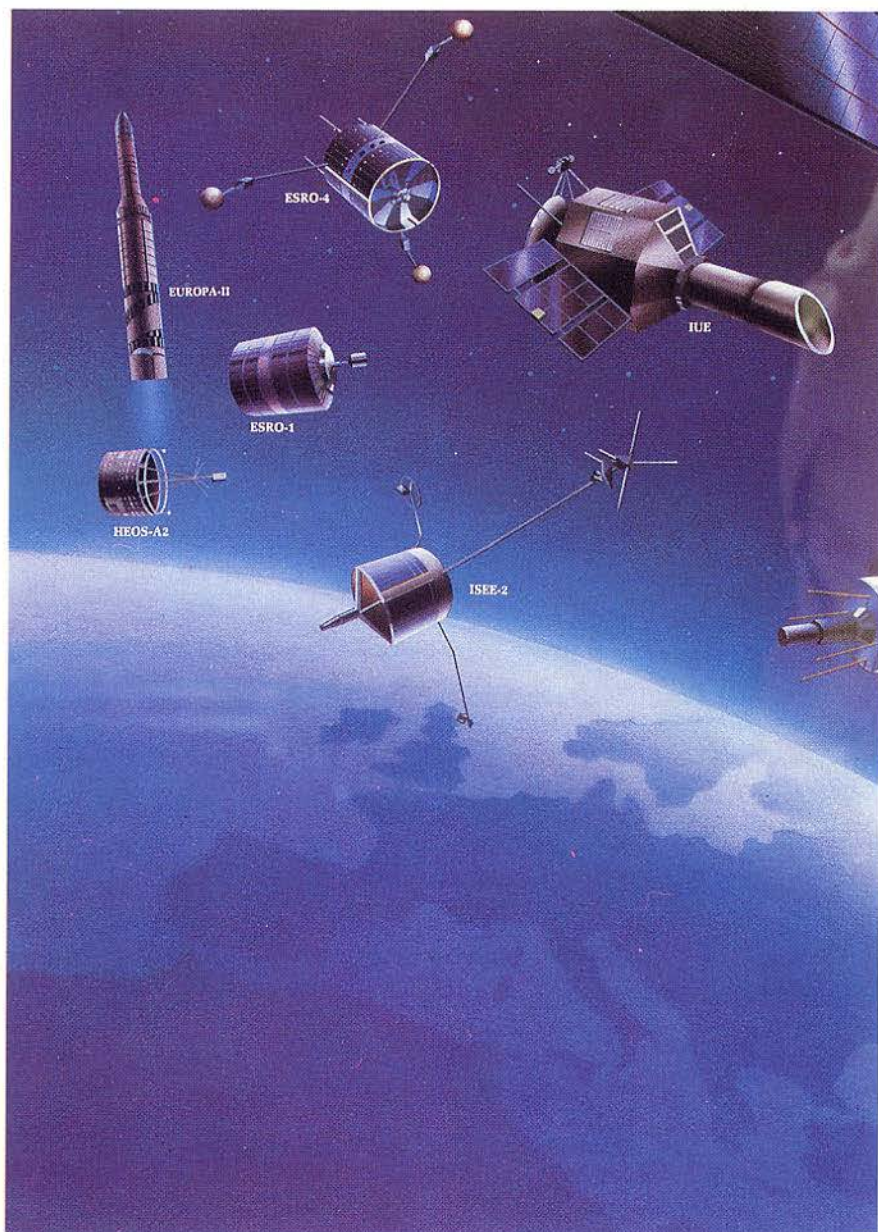
observe that it is not uniform throughout the different fields.

C3 I SYSTEMISTICS

According to me, the degree of competence existing in Italy is quite high.

This has been achieved through a number of programmes, first in co-operation and then autonomous, which have permitted Italian firms to develop considerably: I would like to mention the NATO NADGE programme which permitted SELENIA to develop and produce all the consoles of the System (from Norway to Turkey).

The naval programme



SADOC developed likewise. This involved SELENIA (starting with a licence) on C and C preprocessors in actual time, as well as in the first examples of software developed in Italy.

These bases consolidated through autonomous developments promoted by the Italian Armed Forces, or developed for many foreign customers. I shall mention IPN and the STANDARD components in the naval field, and the C and C stations model land MRCS, as well as the integration of air reconnaissance radars within a national network of C3 I.

A leap in quality will be

represented by integrated systems such as CATRIN and SIACCON which most of the national industry is engaged in and which will employ advanced technology and concepts such as that of artificial intelligence.

SYSTEMISTICS IN THE FIELD OF MISSILES

Here too I consider the Italian situation good, indeed very good. This of course, only as regards those groups of products which concern our industry (excluding all that is beyond short and medium distance dead angle defence).

Here too the first experiences arose with the big programmes of international co-operation started in the 60s.

For many Italian — and European — firms the HAWK became the opportunity to pass from a productive typology of the small industry (even though of fair dimensions) to an industrial one in the modern sense: it is enough to think of the formalisation of the procedures of production and of quality control.

The HELIP (HAWK improvement) has further increased the systemistic and specialistic knowledge of the big rocketry systems, especially as regards the sensor part of missiles and the battery control automation.

In the field of the dead angle defence systems another opportunity was represented by the production of the SPARROW missiles and the participation to the NATO SEA SPARROW multinational programme.

Here the quality leap took place in the 70s when the Italian Armed Forces had the courage, on the basis of technologies acquired in the above programmes, to plunge into very important national developments which might even today appear reckless. I mean the multi-role missile ASPIDE developed by SELENIA and the surface-to-surface missile OTOMAT developed by OTO together with MATRA.

Technologies involved, all at the highest levels, are of the most varied type; from aerodynamics to materials (the ASPIDE in the air-to-air version reaches the speed of MACH 5), from the radaristics of self-guiding heads, to the guide and control systems, energy generation, propulsion, warheads and so forth.

Export markets have also been an incentive for investments and a great help in contributing to the financial aspect, the overhauling and the operational improvement in the most varied conditions.

This of course is true of

ammunition as well as of the rocketry Systems which employ it such as the ALBATROS, the SPADA, the SKYGUARD-ASPIDE, sold to many customers all over the world.

In conclusion, I would like to say that Italy has a very important heritage of technology and systemistic competences which has to be nourished with further national Research and Development programmes so that it may play an adequate role in the international co-operations representing the future in this field.

SENSORS AND RADAR SYSTEMS

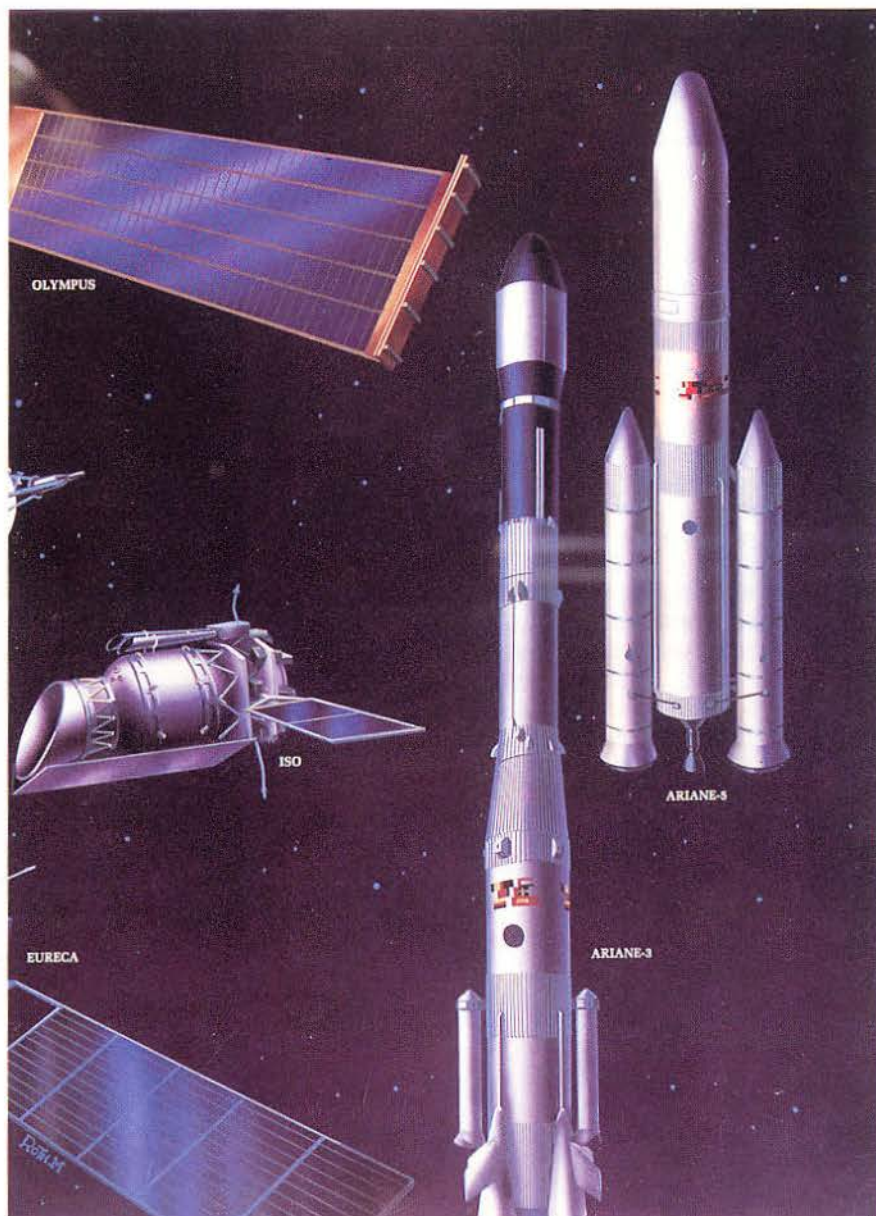
Here the Italian situation is at its best: for certain products we reach excellency at international level.

Here our Armed Forces have invested with continuity — from the first tube ORION firing radars to the new mono-pulse version of the same; from long range detection (ARGOS) to medium and long range tridimensional detection (RAT 31S — RAT 31 SL), to the low site one (PLUTO).

More recently, the development at European level of the Multifunctional EMPAR radar was started (Selenia-Thompson-Marconi); the development for the Armed Forces of the United States of special radars for air traffic control MATCALS (Selenia-Sperry).

For the future, the development already under way of the SAR (synthetic opening radar): a technology which has found an enormous impulse in the recent developments of quick signal processing; applications for the surveillance of air and space platforms.

Mention must be made of the special micro-wave components; and in particular the research activity in the field of Gallium Arsenide components which assure high speed to processing and a greater immunity than Silicon components.



SENSORS AND ELECTRO-OPTIC COMPONENTS

In this field unbalances and differences in situation are very evident.

There is a good competency in the field of television sensors and in that of IR sensors: but in no field do we have groups of products which may be considered competitive at international level as that of radar sensors.

As regards laser telemetry, the situation is similar.

This is rather worrying, considering the ever growing role that these new technologies will play in the new systems of weapon

surveillance and guidance.

The situation is very different when, within the required functions, the processing and intelligence component becomes predominant: this is the case of the so-called SMART sensors, for which Italy (SELENIA) has had a contract of development as Sole Source within the SDI programme.

ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS

This sector is rather young for military applications; and it is one of those fields (as usually happens in many

sectors of informatics) where civilian applications relapse on military applications more than vice-versa.

In Italy, advanced studies and applications at international level began in the early 70s with the development by ELSAG of the EMMA computer (Multi-Mini-Associative-Processor), centre of an Automatic Recognition System of written texts on ELSAG licence applied in more advanced countries (In France by licence of Thomson-Hotomiss Brandt and in the USA by licence of Pitney Bowes).

Advanced studies and important achievements have been going on for the last 15 years in the field of industrial automation; from the recognition of the written word to that of the spoken word and up to the recognition of more complex forms designed to reach artificial vision (intelligent and seeing robots).

Militarily speaking, the first applications, in ELSAG, concerned systems of helped/automatic recognition of acoustic «markings» of barrage-tenders; in SELENIA, recognition systems applied to radar sensors and, as mentioned above, to electro-optic sensors.

Other activities of research, with an enormous potential, are under way, again in SELENIA, and concern the man/machine vocal interface and expert systems employed to help decisions in difficult situations; an example in the latter field worth mentioning regards the CATRIN System, within which SELENIA is studying techniques based on knowledge useful for the planning of missions of the Light Aviation of the Army.

CONSIDERATIONS AND CONCLUSIONS

From the few examples mentioned, we may draw some considerations of a general character.

The panorama examined is in many ways more positive than what the Research and Development national



investments allow us to imagine; in fact, factors which have brought about this level of development are many and include the following:

- Research and Development financed and addressed by the military customer to other research boards;
- the participation in multinational development and/or production programmes;
- Research and Development self-financed by the firms themselves, especially thanks to an important export market;
- the participation (rather scattered to say the truth) in international development programmes such as CTP and NUNN, etc..

There are many differences in level from one area to another; the level is good and excellent in some cases, where the concomitance of more than one of the above mentioned factors has permitted a

continuity of investments.

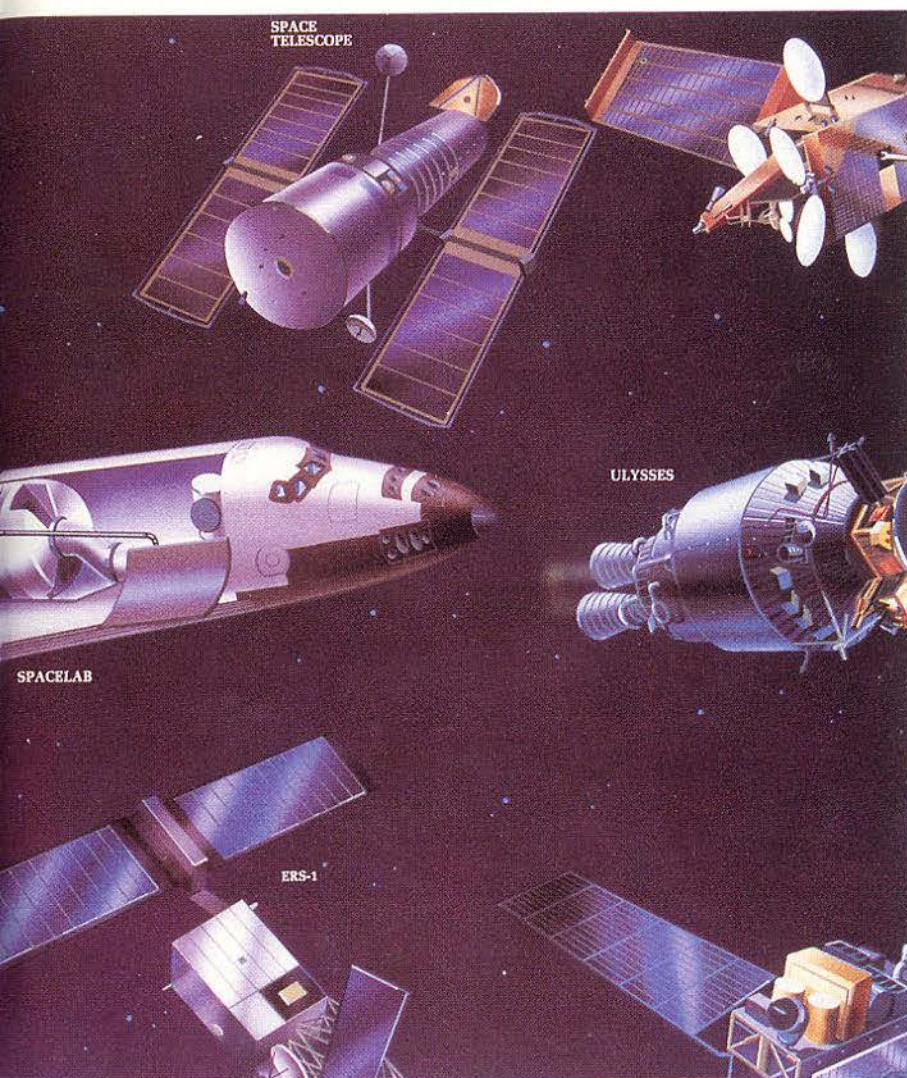
In many cases, the development of new systems was favoured by the need of procuring the same; investments in basic research or pure technologic development are rather low.

The above circumstances give rise to the fact that technically good products have been put onto the market after similar products of more qualified competitors; it is what a colleague of mine called «development of an imitative kind».

Inconveniences, however, were limited: our Armed Forces accepted this small temporal gap; our export market — chiefly formed by developing or recently industrialised countries — absorbed these products well.

However, things have changed and will always change in the future.

As mentioned at the beginning, the new generations



of systems for the defence require ever growing investments; the gap between us and our European partners (and even more the Americans and, in future, the Japanese) will inevitably grow if our investment rate continues to be so much lower than theirs.

Traditional export markets have been drastically re-organised, and where they still exist, competition is much stronger and the reduced margins limit the firms' capacity of self-financing research.

Budget demands, costs and ever growing complexities of development and a greater awareness of the requirements of an inter-operationability among the different Armed Forces have given great impulse to international co-operations (especially European) in all fields of defence.

This fact, extremely positive by itself, becomes a very

serious danger for national industry if not faced in conditions comparable to those of our European partners/competitors.

According to me the above considerations point out the directions to be followed:

- **Investments in Research and Development** comparable to those of our European partners as regards quantity and quality; employment of Research and Development as address to be followed and preparation for international development programmes.

- **Long term planning** of investments for development over a certain number of years to give firms a clearer point of reference and permit co-ordination and contribution to join inter-allied planning.

- **Improvement to the highest possible degree** of the employment of resources, both as regards «demand» (joint

force programmes) and «offer» (rationalisation of the industrial aspect of defence).

- **Aimed and selective employment** of resources by the institutional customer to direct the industrial system towards a greater specialisation and completion of roles so that competences will be accumulated and not dispersed.
- **A tighter co-ordination** of the «Defence» system with the industrial world and other boards promoting and financing Research and Development (University, CNR, ENEA, etc.).
- **Government support** to export within clear regulations and transparency of procedures, as an absolutely necessary instrument for the survival of the sector, as systematically pursued by our allied Governments and our partners in the European Community.

Enrico Gimelli



Mister Gimelli was born in 1937 in Genoa where he completed his studies and graduated in Electronic Engineering. For about ten years he was assistant to the Chair of technique of Regulation at the University of Genoa. After a first working experience in the industrial field at ITALSIDER, he enters the Nuova San Giorgio in 1963 starting his activity within the industrial group for which he is still working. In 1969, the electronic activities of the Nuova San Giorgio were dismembered and the ELSAG established. Gimelli passed over to the new society.

He is appointed manager of the Naval Systems Division and later Deputy General Manager of the society. He then moves over to SELENIA where he is appointed Co-general Manager responsible for the Operational Division first and then General Manager.

At present he is Managing Director and Responsible for the SELENIA-ELSAG group.



THE ITALIAN TECHNOLOGY
AND POLICY INDUSTRIA



CAL



Rather often the press and the research carried out by prestigious institutes underline and denounce a situation which is difficult and backward in our country compared to the scenary found in the main industrialized countries, as regards the capacity of innovation in the sector of technological development.

SISTEMA C/C MILAN



Sistema d'arma missilistico c/c, guidato, a media gittata

CARATTERISTICHE E PRESTAZIONI PRINCIPALI

- Peso del posto tiro con treppiede: 15,5 kg
- Peso del treppiede: 3,7 Kg
- Peso della munizione: 11,8 Kg
- Gittata massima: 2000 m
- Gittata minima: 25 m
- Calibro della testa di guerra: 103 mm

The traditional technological indicators and the usual statistical analysis, such as the percentage spent by Italy on research and development within the OECD, tell us that our position in the international list is behind industrial giants such as the United States, Japan, Germany, France and Great Britain and, for the number of registered patents, we follow countries such as Switzerland and Canada, whose demographic size and industrial structures are far behind Italy's.

In fact our contribution to research and development within the OECD is 2.5% of the overall costs and is equal to about one twentieth of what is allocated by the United States, less than one sixth of Japan's, one quarter of Germany's and about half of what is contributed by France and Great Britain.

Apparently the results of

the Research and Development activity are also modest, and the space occupied by our country in the international scene sees us taking part with only 1.2% of the patents released in the United States in the 1977-84 period, and 3% of those released in Europe (by the European Patent Office) between 1982 and 1985.

The situation is even more serious when we analyse our technological position in the various industrial sectors. Our innovative capacity is, above all, transformed in patents in the more traditional sectors, the ones of the "made in Italy", while in all the technological fields with a higher scientific content we occupy a rear position as regards our capability to produce innovations.

This is confirmed by the heavy debits in the technological balance in general and in particular in the balance of

sectors such as electronics, fine chemistry, oil, by-products etc.

In actual facts, though the situation of our country's technological development is a difficult one, it is less serious than it appears from these figures and can be represented as a mixture of lights and shadows where, next to positions of undoubted excellence there are unendurable situations of technological backwardness in the development of whole industrial sectors.

But if this is true, it is also necessary to acknowledge that in recent years the situation has changed radically, with the incidence of the research and development costs on the Gross Domestic Product which has passed from a relatively constant level in the sixties and seventies, with values around 0.8% to about 1.3% in 1985 and 1.6% in 1987.

These few figures show complex changes in the Italian companies' research and development structure in recent years, induced by a whole series of causes, such as the phenomena of industrial conversion, the changed attitude of the Italian companies vis-à-vis technological innovations, the growing formalization of the innovative activity of the companies and the increase of public support for the Research and Development activity.

But, as a confirmation of the fact that the situation of technological innovations is characterized by "lights and shadows", we must also remember that next to a firm recognition of the strategic importance of technology and the subsequent increased effort in Research

and Development at company level, there is the characteristic of the Research and Development carried out by the Italian companies which is not necessarily innovative. This characteristic is confirmed by the fact that only 33.7% of the expenses for Research and Development is specifically designed for actual innovative research, while 66.3% is for imitative and "follow-up" research, a percentage which increases even more in advanced technology sectors. To this, one should add that in 41% of the cases, the Italian industrial Research and Development is directed to productive processes (especially cost reduction), rationalization or improvement of the already existing processes, while only 59% is directed to products: a very low percentage compared to that of the main OECD countries, which also confirms that in Italy there is a predominance of Research and Development for adaptation and imitation.

In 1987 the total amount of financial resources allotted to Research and Development has been of more than 13,600 billion Lire, with an increase of more than 22% compared to the previous year.

Of these, about 7,300-7,400 billion are related to the companies; the remaining 6,300 billion have been spent, for Research and Development, by Governmental administrations, research bodies, other public agencies, the regions and local institutions and Universities. We see that the cost for Research and

LANCIARAZZI MLRS



Lanciarazzi multiplo (12 razzi) di saturazione, montato su scafo semovente, in grado di investire in tempi sottilissimi obiettivi aerei di ogni tipo

CARATTERISTICHE E PRESTAZIONI PRINCIPALI

- Peso del sistema vuoto: 20 t
- Peso del sistema in ordine di combattimento: 25 t
- Dimensioni (L x C x H): 6,83 m x 2,97 m x 2,60 m
- Motore: diesel da 500 HP
- Velocità su strada: 61 km/h
- Autonomia: 490 km
- Gittata:
 - con razzo a bombetta: 30 km
 - con razzo a minetta: 40 km
- Possibilità di tiro: razzo singolo o più razzi contemporaneamente fino al massimo di 12
- Celerità di tiro massimo: 12 razzi/min
- Equipaggio: 3 uomini (capo pezzo, operatore elettronico, pilota)

CANNONE A TRAINO MECCANICO FH/70



Artiglieria a traino meccanico da 155/39, idonea a fornire supporto di fuoco diretto e generale alle Grandi Unità elementari e complesse

CARATTERISTICHE E PRESTAZIONI PRINCIPALI

- Calibro: 155 mm
- Gittata massima: 24/30 km
- Celerità di tiro: 6 colpi/min
- Munizionamento: HE L15A1 - DM 106 illuminante - DM 105
- Fumogeno Società SIMEL, SNIA/BPE - M107 (SNIA/BPD)
- Peso: 9,3 ton circa
- Velocità al traino: 100 km/h

VCC-80



Mezzo d'avanguardia, prodotto dalla Soc. OTO MELARA, destinato a soddisfare le esigenze proprie della fanteria e costituire modello base per una famiglia di veicoli cingolati per fuoco c/c, c/a, unità del Genio, Posto Comando e Centri Trasmissione

CARATTERISTICHE E PRESTAZIONI PRINCIPALI

- Armamento:
 - cannone da 25 mm in torretta biposto con possibilità di installazione esterna di un'arma c/c missilistica
 - mtr. 7,62 abbinata
 - dispositivo lanciafumogeni
- Mobilità: pari a quella del Leopard 1 e possibilmente del Leopard 2
- Capacità di trasporto: 2 + 7 uomini completi di equipaggiamento individuale
- Dimensioni:
 - lunghezza: 6,705 m
 - larghezza: 2,980 m
 - altezza: 2,6 m
- Peso: 21,5 t

Development in the sector of the Italian companies has grown by 250% between 1980 and 1987, reaching, as we have just mentioned, about 7,400 billion Lire in 1987.

Among the factors responsible for the increase of Research and Development costs in the Italian companies in the 80's, the most evident is probably to be found in the growing public support for the Research and Development carried out by the companies. The public financial contribution to the overall research carried out by the firms has gone from 2% at the end of the 60's, to 9% in the early 80's, to 12% in 1982, 18% in 1983 and to approximately 20% in recent years, thus placing Italy in line with the main industrialized countries, with the exception of Japan.

Despite these undoubtable improvements, it is however impossible not to mention or leave behind the negative aspects, attributed to fragmentation, delays and duplications.

Thus, a constant growth of the resources available for technological development, but also the need for an ever more clear-cut action of coordination, continuity and exchange for the optimization of these resources, which must evidently be directed to the more coherent stimulation of technological development and modernization of the productive system.

If this fact acquires particularly acute relevance for the orders regarding high-technology productions (as for example the aircraft and military industry, computers and telecommunications, the

LANCE



Sistema missilistico superficie-superficie a medio raggio, costituito da un lanciatore semovente e da un caricatore-trasportatore semovente

CARATTERISTICHE E PRESTAZIONI PRINCIPALI

- Sistema di guida: inerziale semplificato con controllo della direzione e compensazione automatica
- Prestazioni:
 - gittata massima: 100 km circa
 - peso lanciatore: 10,4 ton
 - velocità massima: 64 km/h
 - autonomia: 420 km

energy industry, pharmaceutical chemistry etc.) it does not mean that it is less important for "traditional" productions, even if — in the case of the military and aerospace industries — the determining importance of public demand is increased by the technological fallout of these sectors, which is traditionally rich and extensive.

If the above remarks have an element of truth, we must admit that inside the country's technical and industrial system there are realities which differ from the national average and present a situation characterized by more efficient and effective results, even if it is not the best possible one.

This gives me the opportunity to make a few considerations on the industrial sector, which obviously involves me more, as an individual and as a person in charge of a company.

I am evidently referring to the sector of equipment and systems for defence which, despite the recent difficulties due to a series of exogenous factors, is realistically destined to have an essential role in the industrial and technological development of the industrialized countries.

In our country, the basic data show that of the over 6,300 billion mentioned before, allocated in 1987 for research in the public sector, about 522 refer to the Ministry of Defence, in this case second only to the Ministry of Education and more in general, in the public sector, preceded only by CNR and ENEA (National Committee for Nuclear and Alternative Energies).

If we then move on to an analysis according to disciplinary typology, we observe that last year the Ministry of Defence destined, to the engineering and technological research about 483 billion of the 522 billion available, thus greatly surpassing all other public institutions and representing over 42% of the total engineering and technological research handled by the public sector.

It is true that in absolute terms such values are still not enough, and that in 1987 only 8.2% of the allocations for Research and Development in the public sector have gone to the Ministry of Defence. But it is also true that in the 1988 budget there has been an increase by more than 70% of the funds destined by Defence to Research and Development (from 522 to 906 billion) as compared to the previous year. This trend corresponds to the need to align the structure of the Italian military expenses to that of the other European countries; and it is a trend which will continue. In 1988, the funds for Research and Development are about 4.5% of the defence budget, compared to 10-12% of the French and British budgets, which moreover are more than twice the Italian budget.

It is also true that the Ministry of Defence is a public institution inside which there is no worrying fragmentation in the destination of resources, therefore one can feel that there is a programmed technological policy aimed at the technical innovation of production.

This statement is

indirectly confirmed by a multiplicity of data, all indicating a "diversity" of the defence system, compared to the larger "Italy system", in terms of incentive, coordination and planning of the sectorial technological development. Particularly in recent years, within the generalized renewal of the role and meaning of the defence system, we have to underline a growing interaction which is neither fragmentary nor marginal, ever more binding the defence system to the country and to its more advanced sectors in the technological field.

This makes the expense for Defence one of the most qualified among those administered by the State and in this case it becomes a choice of technological innovation and qualification of the expense itself, which has a multiplying effect on the country's economy.

Even if it is not correct to stress a situation which is certainly not ideal (even if only for the quick obsolescence of the defence systems, which often forces to a breathless chase for substitutions), we must recognize the role, which is certainly not a secondary one, played by the defence administration inside the research and innovation sector, through the constant demand for highly sophisticated equipment, which produce stimulating effects on the industrial system connected with defence.

But what most qualifies the relationship with industry and authorizes us to declare the existence of the beginning of a true industrial and technological policy is, in actual facts, the

SEMINATORE TERRESTRE "ISTRICE"



Attrezzatura per lo schieramento rapido di ostacoli minati da veicolo ruotato o cingolato, costituita da più unità di lancio (4-6-8) asservite ad un programmatore elettronico di densità

CARATTERISTICHE E PRESTAZIONI PRINCIPALI

Lanciatore a 6 unità:

- Dimensioni: 190 x 220 x 130 (h) cm
- Capacità: 5968 mine a/u o 1440 mine a/c o un carico misto di mine a/u e a/c
- Sistema di semina: automatico secondo una cadenza di semina preimpostata sul programmatore elettronico
- Gittata: 60-80 m, larghezza della striscia 20 m
- Velocità del veicolo vettore: variabile da 5 a 50 km/h
- Cadenza max di semina: 500 mine a/c o 4200 mine a/u al minuto

interaction of the defence system with the national military industry, a process which cannot be restricted to the traditional ratio between demand and offer, but presents itself as a close relation of functional interdependence of the defence system with military industry, within which there are the cooperation programs on which industry is working now, which strengthen the interaction with the similar sector in the most industrialized countries of Western Europe.

I would like to repeat, once again, that what must be considered important is not so much the size (which is by no means small) of the relation defence-industry, but the quality of the relationship itself, that for its own physiology automatically includes a strong acquisition of know-how, as well as an exposition on international markets and a continuous comparison with the technologies of the other

industrialized countries.

Just when our sector is showing signs of the attacks of international competition and is suffering from exogenous interferences, maybe legitimate but certainly paralyzing, it would be wrong for me to end these remarks without saying that there is still a lot to do before we can declare the existence of an adequate industrial and technological sectorial policy. And there is little time to carry out such interventions, as is shown by the worrying losses of our international positions.

I think there are no doubts on the fact that the only answer is that of technology and then that of the availability of financial and organizational resources, as regards their size and, above all, the methods by which they are allocated.

On its part, the industry producing defence equipment and systems, having recognized its need for cooperation and research of industrial and financial

sinergies, is reacting to the changes which are taking place, through a certain number of initiatives, the most important of which has been the recent establishment of many consortia among companies. They are destined to coordinate the activity, especially in research, development and planning.

From the point of view of the companies' system, what is important, apart from an adequate support of their presence on foreign markets, is a predictable, reliable and adequate public intervention.

In this perspective, we consider ourselves capable of suggesting that one of the possible ways of intervention by public powers is that of giving adequate space to the programs considered by Defence, within those promoted by the National Research Council and the Ministry for Scientific Research; another — and global — way, is that of reviewing in detail the present regulations on royalties.

As regards those due to the State, relevant to products developed with Defence financing, there should be the possibility, for the Defence itself, to invest them in new research and development activities. This aspect is all-important, if one thinks that the Defence market allows for a generation of cash, especially in the case of exports; hence the possibility of investing again for development, just as happened on some occasions.

For a continuous improvement of national planning in the defence sector, it could be possible

to set up close, continuous and stable relations between Armed Forces and industry, as are for example those existing in the major NATO countries, where there are permanent defence groups, made up of officers and industrial experts.

Even the problem of budget cuts has to find a solution for investments, both on ordinary budgets and through the consolidation of funds for special programs (for example promotional laws, within which part of the funds should be earmarked for studies and designs), excluded from contingencies and sufficient to guarantee the full realization of the programs.

Then, inside these special programs, it is necessary that the realization of licensed products be always seen in a strategic perspective, allowing not only the passive acquisition of updated know-how, but also its new elaboration in the national context, and finally the opportunity of joining evolutionary international programs of the licensed technology; the support to research can be carried out through the explicit refinancing and destination of part of the funds for technological development, setting aside all psychological, formal and political restraints.

We are aware of the difficulties brought about by these suggestions in the implementation phase, and of the fact that, from a more general point of view, the public policy supporting innovation and technological propagation finds itself facing a rather difficult and complex task. This is probably also due to the

fact that a conceptual reference capable of establishing an ideal strategy does not exist, and because public intervention itself has to be diversified, but at the same time flexible, adaptable and sensitive, to be able to manage the complexity and changes which are characteristics of industries with high innovative rhythms. But time is short and the challenge is worth accepting, since the alternative is incompatible with the Country's industrial development and with the income level reached in these years.

Umberto Marino



Dr. Umberto Marino was born in Vasto. A graduate in Mechanical Industrial Engineering at Pisa University, from the Breda Scientific Institute he went to Breda Meccanica Bres-

ciana S.p.A., where he has been for 35 years. During his career, Dr. Umberto Marino worked in the various sectors of the company (production, quality control, studies, analysis of times and methods, organization etc.).

Appointed Executive in January, 1962, with the responsibility for the whole Production Service, he was subsequently appointed Procurator in February, 1966, General Manager in September, 1974, Managing Director in May, 1980 and Chairman on 7 May, 1981.

In 1981 he became a member of the Board of Directors of many companies of Finanziaria E. Breda, including OTO Melara S.p.A. of La Spezia.

In 1986 he was appointed Chairman and Managing Director of OTO Melara S.p.A., resigning from the office of Managing Director of FEB.

At present, Dr. Marino is chairman of the Raggruppamento Consortile Oto Melara, Breda Meccanica Bresciana and Officine Galileo, as well as President of the Advanced Center for Technological Research.

LANCIARAZZI C/C FOLGORE



Sistema d'arma c/c, non guidato, a media gittata, con proietto-razzo

CARATTERISTICHE E PRESTAZIONI PRINCIPALI

- Pesì:
 - su bipiede: 18,9 Kg
 - su treppiede: 25,6 Kg
 - munizione: 5,2 Kg
- Lunghezza: 1,80 m
- Calibro: 80 mm
- Gittata efficace: 700-1000 m
- Munizionamento: SNIA/BPD - Breda

THE ITALIAN TECHNOLOGICAL AND INDUSTRIAL POLICY

TWO MAN PORTABLE BEAM RIDING GUIDED MISSILE SYSTEM FOR INFANTRY
AMMUNITION (MISSILE AND CANISTER), WEIGHT: 20 kg
FIRE POST, WEIGHT: 23 kg - RANGE: up to 3,000 m



MAN PORTABLE **'MAF'** MISSILE SYSTEM

OTO MELARA ANTI-TANK SYSTEMS

AUTOMATIC **'T 60/70 A'** AT TURRET



AUTOMATIC DUAL FEEDING T 60/70 A TURRET FOR WHEELED OR TRACKED IFVs
COMBAT READY WEIGHT: 1750 kg - STABILIZED FCS



PREFRAGMENTED HE



APFSDS-T

IN JOINT VENTURE WITH MECAR S.A. and HERTEL GmbH



OTO MELARA SpA, ITALY (I 19100) LA SPEZIA, 15 VIA VALDILOCCHI
TEL (39-187) 530 111 - TLX 270368-281101 OTO I - TELEFAX (39-187) 530 669

A Company of the OTO MELARA - BREDA MECCANICA BRESCIANA - OFFICINE GALILEO Consortium

GRUPPO
EFIM
 FINANZIARIA
 E. BREDA

THE SOCIAL INFLUENCES OF WAR



War may be defined and traced back to any conflict among rival groups, carried out by force of weapons or other means and aiming at being accepted as legal. In accordance with this delimitation, there may be a state of war without cases of violence or clamour of weapons. Disorders and acts of individual violence are excluded from the above concept, while upheavals and armed rebellions are included, especially those whose extension is broad enough to be considered as a civil war.

The conflicts of primitive man may be classified as wars if caused by organised group activity or whenever there is a continuity of objectives and action. All the battles caused by accidental or casual acts of violence do not come under the above category.

CONFLICTS IN PRIMITIVE SOCIETIES

Primitive societies include many stages of development, from the simple social organisation of Eskimos to the more complicated and varied societies of Zulus or of the Indian populations of the North-Western Pacific coast. These societies lack a form of written language and thus base the transmission of knowledge on oral tradition. The life of primitive populations is governed by custom; social relations within the group and the techniques with which primitive people face the requirements of every day life are sanctioned by the unchanged experience of generators.

The war of primitive people is conditioned by the same customary regulations which govern the other activities of the primitive group. As society is static, weapons and war

Giovanni Fattori:

Explosion of the ammunition chest (1880).

techniques are also static, thus differing from the weapons of civilised societies where the methods for waging war are continuously changing.

The war of primitive societies differs from that of civilised populations in many important aspects. In primitive societies, specialisation is almost non-existent; each member of the group takes part in all the activities of war and thus there is no professional or "regular" military class whose only task is that of engaging in war. In the primitive groups there is no leading class and thus no hierarchic structure, nor are there any means of imposing orders and discipline.

The lack of all principle of authority other than that indicated by custom is the reason why primitive groups never achieved the tactic organisation of the armies of



Giovanni Fattori:
Abandoned soldiers (1966-70).

civilised countries. The simplest form of attack consisted in making an ambush for the enemy and hitting him at a distance with launchers. Many primitive groups never went beyond this technique and very few of them were ready to fight bravely face to face or attack fortified positions.

Generally, in a primitive war, after the two opposing deployments had got in touch with one another, the battles broke up into a series of individual encounters.

Rational planning of war, as undertaken in civilised nations by military General Staff or political corps, is inexistent in the way primitives go about the conflict; planning is generally no more than the omens begotten from a chief's dream. Due to the scarcity of food resources and to the fact that the warriors are also hunters and suppliers of food to the whole community and that the members of the warrior patrols are free to return home if "the spirit" advises them to do so, no primitive society can wage war extensively. A primitive society cannot lightheartedly afford to lose one of its vital food producers; therefore, though in a primitive war the toil is generally low, the death of only a few men is usually enough to abandon the

combat. Finally, the reasons for a primitive war are only vaguely similar to those causing an organised and civilised State to wage war. Economic reasons are not very important; most primitive people own very little which may tempt an aggressor. Wars undertaken to conquer a territory or impose one's dominion over another population are just as unusual. War is usually waged by a group of individuals, or by the whole tribe, for prestige alone; that is, war is waged for the glory obtained by the most distinguished warrior, or otherwise for revenge.

EFFECTS OF CONFLICTS IN PRIMITIVE SOCIETIES

The nature of primitive war is tightly bound to the social, political and economic organisation of primitive society. Changes in the way of waging war go together with changes in the organisation of the group, following both internal innovations and influences of other cultures. These changes may take place through the achievement of a technique

Through the study of the solution of conflicts and the overcoming of the crisis, it was decided that war could have been prevented if, under the nuclear umbrella, one succeeded in preventing enmities among States to go so far as to become irreversible.

making specialisation possible or through the evolution of political institutions. When the royal principle was introduced among Zulus, it coincided with the rise of an individual who had enough authority to command. The Zulus, lead by powerful kings, broke through the barrier of custom which prevented changes and developed a system of war which was something between that of primitive groups and that of civilised societies. Likewise, most of the primitive populations who came in touch with Europeans, imitated more or less successfully the western war techniques. The Indians of the prairies obtained horses from the Spaniards and became mounted warriors; fire arms increased the shock force; but though the Sioux managed to beat Custer's troops, the Indians' progress as regards armaments was not followed by an equal progress in the organisation: Indian command and tactics remained rudimentary.

CONFLICTS AND SOCIAL CONSEQUENCES IN MODERN AND CONTEMPORARY AGE

In civilised societies war differs from many other kinds of violence because it is a form of behaviour accepted by at least certain groups within the community. The endemic riots



of the Middle Ages, often considered illegal by ecclesiastic and political authorities because they represented a threat to the integrity of the Christian state organisation in Europe, were actually a true and proper state of war. The political unity of medieval christianity was largely theoretic; the conflict among groups was an acknowledged method of settling disagreements and military operations were planned and achieved in an organised way. In modern times the prevailing type of conflict is war among national States. This type of conflict must be classified as a state of war event if often denounced as illegal and unfair. Philosophers have often faced the problem of distinguishing between fair and unfair wars, on the basis of a moral evaluation of the causes. Nowadays, bearing in mind the statute of the United Nations, some authors maintain that the old type war among national States is illegal and that the only military action to be considered legal is an International police operation to forestall or punish the aggressor. However, the powers which opposed the UNO forces maintained that their combat had legal aims and that their

cause was just and legal. It is therefore still virtually impossible to find a meaningful difference between legal and just wars and illegal and unjust ones. All organised armed conflict among ideologic or national groups must thus be considered simply as a state of war.

The condition that to be classified as a state of war a conflict must somehow be an organised activity, may suggest that war is a condition which develops with the evolution of civilisation. In fact, certain philosophers and certain ethnologists have attributed a mutual origin to war and civilisation. Some ethnologists, in particular, have gone back to certain populations of the Stone Age, such as the Eskimos, to suggest that primitive man was "peaceful"; it may therefore seem clear that war intensified as man became more "civilised". According to the above it would be possible to conclude that war is something "unnatural". If it were "unnatural" there would be sound reasons for supporting

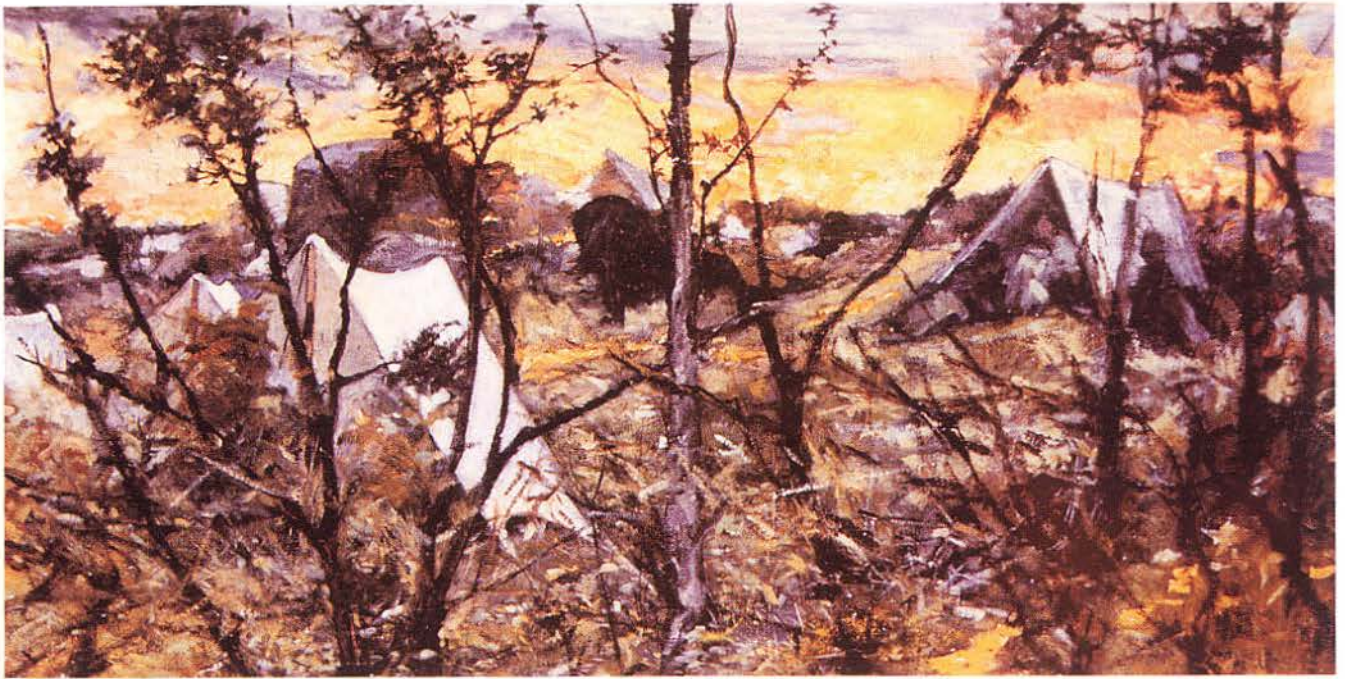
The XX century shows a movement towards total war, but it is also marked by an effort to control the plight of war much more aware than in the past.

Giovanni Fattori:
The Italian field after the battle of Magenta (etching).

the theory that war may be eliminated; if man is not pugnacious by nature, it is conceivable that a solution be found to the evil which has always distressed mankind.

Most of the cultural anthropologists, however, disagree with the opinion that primitive man did not know what war was. They consider primitive man's expeditions in search of food and a wife a primitive form of war. The path of civilisation has intensified war at certain levels such as for example as regards conflicts among nations, but it has often subdued its manifestations at other levels such as for example within the national State. Few could deny that, within this sphere, the national State has become one of the most important instruments of civilisation created by man. War may not therefore, be considered the particular result of the national State and of extreme nationalism; it already existed before the birth of national States.

Whether we accept the theory that war is the daughter of civilisation or support the opposite theory according to which war is the produce of



Giovanni Fattori:
Camp at sunset (1885-86).

human nature, it is clear that the development we observe in war is tightly linked to the process of historic change. The social, political, economic and cultural progress of man is influenced, for better and for worse, by the armed conflict. The fate of war has often been the determining factor of the process of historic change: Persian wars saved Europe from Asian tyranny; the Roman Empire was established through war and war contributed to its downfall; William the Conqueror influenced the history of England by a victorious war. War was determinant throughout the centuries, especially when other ways of reaching a decision proved inadequate. The results of war are not based on rights but on strength. Even when rights prevailed in waging a war, it is difficult to decide if this was accidental or determined by the moral strength given by being in the right.

War, however, was often much more than the brutal attempt to decide the course of history with the force of arms. The very nature of war was moulded by social factors and by the evolution of technics,

which were in turn influenced by war.

There is no need to insist on the fact that war has undergone the influence of social and technical changes. Weapons are a product of technics. Armies are influenced by the society in which they are established. When there are social or industrial revolutions, when power passes from one class to another, when new administrative or distribution techniques are discovered, war is immediately affected.

The ever growing rhythm of the scientific discoveries of our time has made this truth clearer than it has ever been in the past. In fact, a British writer of military affairs, general J.F.C. Fuller, maintains that weapons have to do with 99 per cent of a military victory. Though it is difficult to agree fully with such an extreme thesis, a superior armament undoubtedly favours whoever uses it. Due to the speed with which inventions follow one another at present, success in war depends on how

easily soldiers adapt their organisation, tactics and doctrine to the use of even more sophisticated weapons.

Success may also depend on the measure in which military chiefs are able to harmonise the spirit of their units with that of the society the staff comes from. In the past, due mainly to the conservatism implicit in their profession, military men were sometimes slow in adopting already available weapons and methods. Only recently was scientific research accepted as an important part of defence; and only in modern times was it realised that an army can in no way remain isolated from the rest of the community.

The complementary thesis according to which war has a steady influence on the form of society, raises much more controversial problems. Some thinkers have reached the conclusion that war is a "constructive force" in social and technologic progress. Werner Sombart supported the thesis that war favoured the development of the modern economic system and thus of modern society. The American social philosopher Lewis Mumford states that machines were introduced by war. Many authors are concerned with

The destructive power of the hydrogen bomb is so big that political leaders, scientists and military men have often stated that the fear of the bomb has a dissuading effect against the outbreak of a big-sized conflict.



military virtues as may be found in some individuals, especially in times of crisis; and some, such as Nietzsche, maintain that war must thus be considered an “ennobling” experience for society as a whole.

Of different opinion is Toynbee’s *Study of History*, which, though duly acknowledging the importance of military virtues, states that war is the “immediate cause” of the downfall of all civilisations in the past. Toynbee’s description of the “death symptoms” in the periods of disorder of the previous civilisation seems similar to that of the symptoms revealed in the periods of the nationalist wars of our time. Many other authors believe that war is a great destroyer of materials and of moral sense. Some conclude that there is a strong and perhaps inevitable tendency according to which the efforts spent on the defensive organisation and in related operations may lead to excesses of the military spirit which would end up by disintegrating the very society to be defended.

The book *War and Human Progress* by J.U. Nef is a detailed study on the effects of

war. It underlines how many statements of the “constructive” school on the contributions of war to society are illusory or exaggerated and it maintains that not war, but the “limitations” imposed on it have led to social and technical progress.

War may be limited in many different ways. It may be limited in length, space or collocation, in intensity or in the way it is fought, in its effects on the belligerent populations or in the objective aimed at. These forms of limitations may not be all present at the same time. The origin of such limitations is varied. When a war is short-lived it is more likely to be because one side clearly prevails over the other rather than for lack of engagement; a limitation in space may be due to the local nature of the object of strife; limitations in the way of fighting, lack of effects on the civilian population and limitations of an objective may be due to physical barriers and to

The increasing constructive capacities of man go together with a strictly parallel increase in his power of destruction.

Giovanni Fattori:

Episode of the campaign against brigandage in 1963 (1864).

opinions which impose restrictions to the nature of war. Theoretically, limitations of the latter kind already existed in the Middle Ages and acted as a strong curb for the illuministic period in the eighteenth century.

Quite clearly, the concept of limitation is diametrically opposite to that of the global character of war. Moreover, just as limitation can never be absolute, war as a whole is a relative and not an absolute concept. Total war, in the fullest sense of the term, would mean fighting with all one’s resources and with all kinds of weapons without any limitation imposed by humanitarian reasons or convenience.

No war has ever reached this stage. The conqueror cannot wish to find a desert at his feet. In war, an absolute total character can only mean chaos and barbarity. What is really meant when speaking of total war is something near totality and by limitations to war we mean that the growing civilising effects or the incapacity of overcoming physical barriers act as a curb



Giovanni Fattori:
*Episode of the attack on the
Madonna della Scoperta (1864).*

and weaken the effects of war on society.

Man's increasing constructive capacities go tightly together with his growing power of destruction. Likewise, the ever growing capacity of destruction goes together and in some way determines the need of imposing limitations to war in the name of humanity. Throughout the centuries, the opposing trends, towards totality on the one hand and towards limitation on the other, have been following in succession. Illuminism and the Middle Ages were dominated by the trend towards limitation, while the Reformation and the French Revolution were marked by a steady approximation towards totality. In the nineteenth century it seemed almost as if man were in an intermediate position in choosing between the two opposing trends. The twentieth century shows a movement towards total war, but the efforts to control the plight of war seem more aware than in the past. The invention of the atomic bomb seemed to threaten civilisation and perhaps the very existence of man.

Though this example suggests that war spurred the rhythm of scientific development more than would have been possible in peace it also showed that war had become a destructive force of unlimited potentiality. The initial incapacity of employing atomic power for peaceful uses, increased the danger hovering over mankind. The movements for the abolition of war, already spurred by the horrors of modern conflicts, were powerfully strengthened. Pacifism, the limitation of armaments, collective security and even the creation of a super-state by general consent were the means supported to put an end to war. The destructive power of the hydrogen bomb is so great that statesmen, scientists and military men state that the fear of the bomb has by itself the power of dissuading against a further world conflict. Man's instinct of self-preservation may, in fact, end up by saving mankind from destruction.

Total war, would mean fighting with every resource and every kind of weapon without humanitarian or opportunistic limitations. No war has hitherto gone so far. The conqueror cannot wish to find a desert at his feet.

Several observers are surprised to see that the development of Soviet nuclear weapons, believed to cause the outbreak of a third world war, has so far had completely different effects. Nuclear balance, or deadlock, between the two big powers, reached around 1959, caused a state of mutual dissuasion: the balance of terror. It opened a nuclear umbrella under which the minor powers continued to fight wars, while the superpowers though sometimes surreptitiously giving their help, abstained from armed conflicts. When directly involved, the two superpowers accepted restrictions to their military operations and avoided turning to nuclear weapons. Furthermore, both showed mutual reluctance in sharing the secrets of the atom and strongly underlined the dangers of nuclear proliferation.

CONCLUSION

It is now clear that a solution to the problem of war could be reached only if one superpower conquered the other or if a world State was created or, alternatively, through an agreement by which each superpower be willing to



relinquish substantial claims.

Since for the time being the superpowers seem to be able to stay out of an actual control imposed by a general international agreement, and since political science is unable to abolish or repress war, if not by mere chance thanks to a fragile nuclear balance, theorists have been looking for the key of the problem in a more detailed study of war and its causes with the aim of learning something more on its prevention. The past debate on whether war was the product of human nature or of the development of civilisation is too simple and out-dated. Attempts of preserving peace by arbitration, disarmament, international organisations and collective security have given no result. In 1858-59, the year in which the possibilities of the balance of terror were first understood, new research institutes were established to study what was called the science of peace. One of the most promising programmes was the study of the solution of the conflicts and of overcoming the

crisis, convinced as we were that, under the nuclear umbrella, war could have been prevented if antagonism among States was prevented from going so far as to become irreversible.

The balance of terror thus favoured a more scientific study of the origins of war by scholars of social science and other subjects. No-one expects easy solutions. Even if a general theory on the causes of war was elaborated by making use of researches made in other fields, there would still be the serious problem of convincing people to apply theory to practical situations. Nonetheless, these studies are the most promising steps towards peace, excluding negotiations between the two superpowers on the limitation of nuclear weapons.

The study of the history of war, of its relationship with society and of the effects of social and technical development, may help to better meditate on the means of controlling or limiting conflicts and therefore eliminating the

Giovanni Fattori:
Artillery drill (1859).

danger hovering nowadays over
Man and his civilisation.

Gen. Francesco Cervoni

THE SOCIAL INFLUENCES OF WAR

A BETTER EMPLOYMENT FOR CORPORALS



BATTAGLIA DI MONTEBELLO

Carica della cavalleria Piemontese e morte del Colonnello Moiré di Treppe

To define the characteristics of corporals we must first analyse the social contest in which individuals are formed before assuming this role within the Military Institution and then, from the problems which influence their behaviours, draw the values and aspects which make them capable of holding a position of command as "intermediate leaders".

Though corporals occupy the first echelon of the hierarchy, they carry out the important task of co-operating with the Commanders at higher levels in the conduct of training.

To obtain such cooperators, each Commander must be very cautious in choosing the personnel who will be appointed corporal and act in such a way as to have a valid subaltern, capable of operating efficiently as regards both training and the daily life of the barracks.

OUTLINES OF THE ITALIAN SOCIETY AND THE ISSUE OF THE YOUNG

To define the corporal it is necessary to supply some information on the society where the young man who will occupy this position comes from.

As it is impossible here to make a deep and accurate analysis of all the economic and social factors which have affected the establishment of the present structure of Italian society, we shall necessarily limit ourselves to a brief list of some of the most important elements which have somehow influenced it, remembering the following:

- the increase in population, close to zero growth, has already reached this limit in certain regions with an ageing of the population equal to about 13%;

- the greater industrialization of Northern Italy caused a phenomenon of massive immigration from the Southern regions, better known by the term "southernization". Due to its rapid and remarkable extension, this phenomenon soon concerned all State institutions as well as private and public activities;

- such a great mass of human material favoured the uncontrolled development of cities and created problems regarding their rational extension and an adequate urbanization;

- the rapid development of technology demanded specialized personnel while the introduction of automatic systems produced unemployment, with serious consequences on the young generations.

All these particular phenomena together and tightly connected to various other factors, may certainly be considered responsible for the proliferation of various kinds of deviations, with worrying consequences for the future of our nation, such as the increase in drug addiction,

common and organized criminality. Sometimes, those who commit crimes are teenagers who have escaped the attention of social groups (family, school and other structures). All this is tightly connected with the problem of finding work and the widespread habit of looking for easily earned consistent sums of money, encouraged by a society which often identifies individual "value" with wealth.

University, which alone should represent a stage of intellectual growth and maturity, often becomes a "parking area" for those who, unable to find a suitable job with a high school degree, hope to increase their chances with a university degree.

This extension of the school years has in fact raised the cultural degree of the Italians, but has also caused, among the young, the phenomenon of "intellectual unemployment". The result is a devaluation of academic titles.

The CENSIS report for 1986 confirmed the previous year's trend of the young to look for non-material goods, typical of a post-industrial society, capable of giving satisfaction and to indicating new values with which to give a motivation to life.

In a situation of this kind, the young's refusal of rules and social structures which may somehow be coercive, seems quite obvious. In fact, we do not understand how a society with nothing convincing to offer can ask for willingness, adherence to reality and respect of certain rules.

We may thus justify the inborn refusal of an institution such as the military and the rules it imposes, starting from compulsory military service. Moreover, the image of the Armed Forces presented until now and assimilated by the young generations is old-fashioned and stereotyped because of an ancestral and well-known separation between civilian and military society. Moreover, we must add to the

old prejudices the social groups' incapacity of overcoming this division and improving the knowledge of today's real image of the Armed Forces, of the values they guard and of their actual function, well integrated in the life of the Country.

Therefore, until now military service has been looked upon as a rather "uncomfortable" duty to be fulfilled just as one should enter the working world.

With this cultural background, the young, compelled to follow principles which have nothing to do with their previous experiences, often find serious difficulties in adapting themselves to the military and in obtaining the knowledge which might become useful when they go back to civilian life.

However, despite the general hostility towards military service, it is just in this period that many young men discover in the Army some of those values they have been looking for, and transmit them to their young friends. Yet, if the military institution wishes to bring forth all its positive aspects, these must be underlined and explained in detail by the Commanders at the lower levels who, for age, interests and daily sharing of common activities, have a greater credibility vis-à-vis their subalterns. From the above one may draw the characteristics of the enlisted man:

"He is 19 to 27, with a good cultural base (high school or college) and may thus be employed in any sector of the military with the assurance that his employment will give good results in the operational activities. He has the characteristics of the social class he belongs to, with prevalence of the middle class.

He faces military service without interest and superficially, indeed he tries to avoid it as it is considered a forced estrangement from his habits, his loved ones and his work. Once he enters military life, if duly stimulated and



ASSEDIO DI GAETA — UNA SORTITA DEI BORBONICI RESPINTA DALL' ARMATA SARDA

interested, he assimilates the intrinsic values of the institution to satisfy his personal post-materialistic needs, becomes responsible for the job he holds and does his best to increase the cohesion and reach the objectives of the group he belongs to".

CORPORAL: INTERMEDIATE LEADER

The characteristics of the corporal are those of an "intermediate leader".

As often happens in industry, he is called "front line man", or "commander's arm" and just as often he plays the unpleasant role of "scapegoat", i.e. that of a person occupying a level of the chain of command from which he must, on the one hand, safeguard the image of the chief detaining the power, and on the other, meet the requirements of the base.

This delicate position may negatively affect his working performance and have serious consequences on the relations with his superiors and subordinates, especially because his activity is often carried out in a climate which psychologists define one of "pragmatic paradoxes", typical of a highly hierarchical structure. Often the intermediate leader's functions have no direct relation between knowledge and power because, in most cases, opinions, no matter how valid, may be put aside in favour of suggestions coming from the higher ranks.

In this situation, he who manages this "false power" feels responsible for activities in which he has no actual authority. Moreover, the control he is subject to is constant and often shows a clear distrust of his actions and his working capacities.

The manner of avoiding

many of these inconveniences, characteristic of highly hierarchical and bureaucratic structures, is to look for a line of behaviour true to the loyalty and honesty peculiar of the military profession and finding out those elements who may carry out the job of squad leader, gun commander etc., helping them to find in their job the reasons to fight alienation and get adequate satisfaction. All this must be pursued by those who have the necessary authority.

It is well-known that, for each member, the presence in a "group" causes obvious changes of orientation and behaviour which always go together with a sense of solidarity and the awareness of belonging to "that" group, formed by "those" people, with whom the daily relationship is closer.

It is thus logic to speak of the relations developing within

a group and which, generally speaking, may be classified as follows: emotional, operational and of dominance.

As regards the military environment, it is not difficult to spot out all three types of relations. From the simplest one, of pure social coercion and dominance of the stronger over the weaker, to the operational one, on the basis of a common aim to be achieved, to that, last but not least, of the emotional kind.

It seems that in military life true and proper libidinal-emotional relations occur. These are typical of the primary association forms, as was sensed by Freud and proved by psychological and social investigations. Special mention must be made of the Stauffer enquiry, carried out within the American Army towards the end of the second World War.

What emerged from these different forms of analysis clearly shows how a dangerous situation strengthens the existing emotional relations within a group, attracting everybody's attention on the image of the "leader", on which one instinctively concentrates all energy in pursuit of safety and a common aim.

Therefore, under these circumstances, the leader (and we mean leader in a charismatic sense) becomes the symbol and the maker of the entire group's expectations.

Without reaching extreme situations, it is easy to suppose that every group feels the need of finding a person who may become a point of reference and, at the same time, a driving source for all other members of the group.

Speaking of military groups it is obvious that the real Commander should be identified with the leader the young soldiers have chosen emotionally because, from a functional point of view, this will create the best working conditions.

This is how the corporal may become an essential link between the institution and the

mass represented by conscripts.

Having the possibility of sharing the entire working day as well as the hours of rest and free time, with the other members of his little group, he is the one who is closer to individual men, knows the problems and difficulties of each and can help them in overcome and eliminate all the useless prejudices which for many make the service period a "dead period" for many instead of a useful common experience.

A corporal who shows confidence in the institution for which he works, who attempts to underline its positive aspects and real meanings (without indulging in useless rhetoric and demagoguery) has many more chances of being listened by those who, because of their age and condition, already feel him closer than other military men of "higher" rank.

However, despite the fact that society provides young men with an average cultural level undoubtedly higher than that of the previous generations, it cannot be sufficient for a young man just over twenty, just because he is a corporal, to act readily and efficiently as regards the problems of his fellow-soldiers.

To come closer to the image we have just drawn, the corporal should undergo a particular kind of training regarding not only technical and practical knowledge required by the task he is going to carry out, but also psychology and sociology, so that he may be given an adequate preparation, necessary for an easier relationship with the human material he will have to manage.

TRAINING OF A CORPORAL

The first difficulties we are faced with in this respect regard the spotting out of the most suitable elements. This is based on selection or on choice.

Psycho-aptitudinal tests have proved quite valid in

selecting the right personnel. Once the selection is over, the chosen men have to be trained.

The time available for an adequate training is always insufficient and the means often unsuitable.

A command training technique suggested by a publication of the U.S. TRADOC, based on the following three stages may be useful reference:

- spotting the "qualities" required to play the role, by means of intensive theoretic courses, to be started straight after specialization;
- a continuous and constant care of corporals, especially at the initial stage, for a further improvement;
- imitation technique, working side by side with non-commissioned officers with greater experience and optimum training capabilities.

The "qualities" to be spotted and improved must be tightly connected to the aims to be achieved and may be classified as follows:

- self-control
- control of others
- capability of making the newcomers feel at home within the group;
- a deep theoretic and practical knowledge of the teaching subjects;
- capability of talking quietly and firmly to a small public and sustaining and leading possible arguments.
- knowledge of the rules of the institution and of the activities to be carried out;
- readiness of action in abnormal situations.

All this is in accordance with the present idea that the formation of a military leader can be only pragmatic and social and thus directed towards the technical activities to be carried out, as regards precise aims to be achieved employing the capabilities of the available human material at their best.

This is where the relation between the required qualities and the role to be carried out emerges.

It must be remembered that



the high technical levels reached have brought to a general scale-up of roles: this is the reason (together with the personnel shortage) why corporals find themselves carrying out activities, such as liaison, which were once typical of the non-commissioned Officers.

The liaison activity already mentioned, is certainly one of the most important and difficult the young corporal has to carry out. He becomes the linkage of his men's problems to the superiors and the middleman between the latter and the men.

Other tasks are thus directly linked to this function. In the relationship with the troops, a thorough knowledge of his men becomes of the utmost importance. He must know their possibilities of action, reaction and interaction thus permitting a high cohesion within the

group, easier to achieve if the corporal, acting as a leader, becomes the catalytic element.

For this reason the above mentioned knowledge of sociology and psychology becomes necessary and important.

A clear picture of the original social substratum and of the relationship with it, as well as a knowledge of the problems accompanying each member of the group, may help to solve apparently difficult problems or attitudes which are often harmful and difficult to understand. Basically, it is the knowledge of the main emotional phenomena which may be emphasized during the military service (fear, the so-called "combat anxiety" during combat, etc.); the negative reactions which may develop within the group (emotional leaders, arising of irrational

mass processes, etc.) and, last but not least, the knowledge of the main needs which may arise within the individuals (from physical needs such as food and sleep, to security needs, social needs and the need for self-confidence in everyday actions, etc.).

It could be objected that all this knowledge is excessively burdensome and difficult to transfer, but we should not forget that it regards only the basic notions, easier to understand for those who, just as the youths in question, already have a fairly high cultural substratum.

The rest can be left to intuition, experience and personal initiative. In this respect, we must further underline that the capability of acting readily and efficiently, trusting only one's own personal judgement, is another

basic characteristic required of a corporal. This is fundamental for the so-called "continuity of command".

In fact, when the corporal realizes he is the only commander, he must be able to guarantee a sure and efficient issuing of orders.

This condition, together with the cohesion shown by the group, is the best guarantee for an adequate and proper "functioning of the smaller complex" which, moreover, requires a background of technical notions guaranteeing the best employment of the potentialities of the weapon system.

Let us now go back to the liaison activity related to the relations with superiors. This activity, in fact, is made particularly efficient by a frequent and daily contact with the Commanders, intended to create a valid and constructive channel of communication and co-operation.

To this end, the corporal must be able to draft in the best possible way the message to be transmitted (written or verbal), either to his superiors or to the soldiers remembering the different variables which, in the process of military communications, may alternatively favour or hinder their flow (outlook of addressees, contents of information, attitude or disposition of subordinates and superiors, etc.).

A small opinion poll carried out among fellow Officers, company or battery Commanders, on the characteristics of corporals, mostly confirmed the above.

From their descriptions we get the impression of a young corporal with a good cultural level (the choice normally falls on high school, college or college graduates) whose training is nowadays left almost entirely to company Commanders and to the sense of responsibility they try to teach him, underlining, at all times and on all occasions, the existence of tasks and duties

different from those of the other fellow-soldiers.

At this point, it is necessary to underline the fact that the expectations of the Commanders are faced with certain attitudes which seem aimed at obtaining the exact opposite: there is no way we can talk of "participation", for instance, without talking of confidence in the corporal.

A valid and constructive form of co-operation envisages some freedom of initiative which is not always granted and which, when lacking, reduces the execution of orders to something purely mechanical.

It is thus natural to wonder what the reverse side of the medal is, i.e. what the motivations and expectations of the young men occupying the role of corporal are nowadays.

It seems that no official investigation has been carried out in this respect and therefore there are no complete data on the subject. The only possible reference regards an opinion poll carried out privately within an operational unit with a chiefly technical type of activity and which, though not rigorously scientific, supplied some fairly interesting indications.

The answers to a set of questions regarding the corporal's image and role, posed to young enlisted men, emphasized the fact that most of them wanted and sought the rank of corporal, for the desire of carrying out a task deemed instructive, for taking on responsibilities considered valid for a further maturity, for obtaining advantages for civilian life, for the acquisition of an image standing above the others, connected to a greater commitment and the gratifying satisfaction of the Commanders' greater confidence.

This is how no less than 86.6% of the polled youths answered; only 6.7% declared to be against all forms of command, considered coercive, and the remaining 6.7% showed some uncertainty and put on an equal plane advantages and

disadvantages of their role.

As regards the degree and the kind of education deemed appropriate, 53.3% wished for a better training and professional level; 20% for a deeper study of regulations; 13.3% a better knowledge of the problems regarding their role and the tasks to be carried out (including their relations with the troops); 6.7% demanded, quite specifically, an improved social and psychological training while another 6.7% did not point out any particular need.

Eighty per cent answered affirmatively as regards the validity of the disciplinary and operational role within the unit; 7.7% gave downright negative answers and 12.3% were uncertain.

As regards relations with the troops, corporals were asked what men they found more difficult to lead, what were the main obstacles to the action of corporals and what were the main forms of transgression within the unit.

Opinions varied considerably.

As regards "difficult subjects" they are estimated, by those questioned, around 18%-20% of the enlisted men of the unit, 33.3% of whom consisting of the youths who wanted to avoid military service at all costs, 20% of youths coming from difficult experiences, 26.6% of individuals with a low cultural level, 15.5% of those unable to stand any form of authority and discipline, while 6.6% consisted of relatively older soldiers.

The main obstacles to the performance of the task are seen in the relations of an emotional type with the troops (40%) and cohabitation (33.4%). Twenty per cent of the difficulties are caused by the relationship of subordination to superiors and 6.6% by the low cultural level of the troops.

Transgressions are indicated by corporals as concerning 5% of the men. Among these, 20% regards drug-addiction and



A BETTER EMPLOYMENT FOR CORPORAL

homosexuality, 13.3% by drug and alcohol addiction, while 33.5% commit, generally speaking, other transgressions found in civilian life and 6.6% are involved in drug-addiction alone. We must mention, however, 26.6% of missing or non-pertinent answers.

Moreover the limitations of action in carrying out the corporal's job are attributed by 60% to the fact of being the lowest echelon of the hierarchic scale (scarce autonomy), by 26.6% to the limitations imposed by regulations and by 13.4% to the particular psychologic condition of being considered a "scapegoat" as regards both troops and superiors.

On the whole, however, we obtained a favourable opinion on the present image of the corporal, with 93.4% positive answers and 6.6% negative replies.

CONCLUSION

In this attempt at an analysis of the corporal, a character of the military institution which only appears of secondary importance, it seemed only fair to let those

directly interested in the subject give us the conclusive picture.

I believe that, by summarizing the above data, we can notice that, though generally accepting their role, these young men demand, more or less implicitly, the desirable innovations which would make them fully satisfied with their condition.

An improved and more autonomous relationship with their superiors, a better education in all sectors — from the technical and training field to their own sphere of command — the will to accomplish their job seriously, considering it as an experience of communal relationship and as a means of improving relations with others and getting to know them and their problems better seem, to use a term dear to our consumer society, a rather low cost to pay, compared to the enormous advantages that the military institution could obtain by a working force which has not yet been adequately exploited (in a positive sense), such as that of corporals.

Vito Antonio Martino

Lieutenant Colonel Vito Antonio Martino attended the 148th Course of the Military Academy, the Branch School, the War College and the Higher General Staff Course.

He served with the 1st battalion, 4th Antiaircraft Artillery Missile Regiment, and at the War College as assistant professor of Military Sociology and Psychology.

He holds a degree in Mathematics and Sociology, as well as a Diploma in Humanistic Science awarded by the Pontificia Università Lateranense.

At present, Lt. Col. Martino serves at the Regulations Branch, 3rd Division, Army General Staff.



«La guerra nel pensiero politico» (War in political thought)

Published by Franco Angeli,
Milan, 1987, pp. 342, Lire 28.000.

Nuclear weapons have not abolished war: they have only removed it from developed societies, sheltering them from the wave of violence and conflict which, after 1945, has overrun developing countries. By subjecting both capitalist and socialist societies to the same risk of total destruction, nuclear weapons have prevented their competition for political leadership and for the dominion of resources, from ending up once more in the catastrophe of world war, inevitable vengeance of history on those who establish empires. By curbing the "climbing to extremes" of the conflict among developed societies, nuclear weapons have permitted to stabilize strategic balances at low costs, paying for this with an increased vulnerability and to stop the Third World's liberation movement subjecting it to conditions in many ways similar to those of the colonial period. Outside the nuclearized sanctuary — or better still outside the happy innocence or nuclear rashness — the space of a "limited" war has re-emerged, that is of a war that may be ruled, caused and exploited by political rationality, especially that of who is not directly involved.

On the contrary, in the relations among developed societies war is, to our days at least, "unimaginable". The aim of strategy has stopped being the achievement of dominion and victory

to become the maintenance of a dissuasive balance, through a complex mechanism based on a controlled and balanced rearmament and on negotiations for disarmament. The technical mechanism which brought nuclear weapons to have this effect is the inversion of Gen. Clausewitz's idea of the superiority of defence over attack, matrix of all rational strategic computation and of the instrumentality of war as regards politics. There is no defence against nuclear missiles; we may only respond by launching another missile on the enemy; a mutually caused destruction would deprive a military victory of all meaning; nuclear weapons would inevitably turn against whoever used them. Hence, the stability of nuclear dissuasion. In fact, it is based on something which is the exact opposite of Pascal's bet: an endless risk for a limited stake, as any political objective always is.

The end of the nuclear era, however, is to be found in the very logic of nuclear weapons. So is the invulnerability of developed societies, based on the balance of terror and mutual assured destruction which has so far avoided war between East and West. The technologic development of nuclear weapons and their carriers has made them theoretically employable as instruments of a "limited" war, first tactically speaking and then from a

strategic point of view (that is in the very territory of the superpowers). Inevitably, this is the reason for the race for the development of antimissile defence systems which started as soon as technology permitted. Technically speaking, the traditional relation between defence and attack is being re-established and therefore a conflict, even a nuclear one, becomes once again a concrete reality.

Strangely enough, however, those technologic developments which make nuclear war militarily possible also make it less likely than in the past. The Soviet response to the American plan to equip themselves with a "mix" of offensive and defensive weapons which would guarantee the United States a relatively long period of military and technologic superiority and restore its leadership over the Western world, was not a preventive war, but a will to get rid of nuclear weapons unprecedented in the history of negotiations on the subject. This is another proof of the fact that nuclear weapons are less important than previously. Negotiations on the control of weapons and their limitation or on disarmament succeed only if the arm systems at issue are not considered essential; unless negotiations actually pursue different aims from those stated. This happened, for example, in 1963 as regards the treaty on the partial limitation of nuclear experiments



with which the USA and the USSR planned to oppose the establishment of French and Chinese nuclear forces and with the non-proliferation treaty which sanctioned the bipolarism of the two superpowers and an unequal degree of safety between nuclear states and non nuclear states. The fact that the Soviets are willing to give up their military equality with the United States in exchange of a pan-European safety system based on an economic co-operation between the USSR and Western Europe instead of on military blocs and the division of Germany, could radically change the geo-political map of the world, and establish that continental bloc from the Atlantic to the Pacific which represented the true stake of the two world wars. Nuclear arsenals have compulsorily frozen conflict within capitalist societies which together have to face the threat the Red Army represents for their boundaries. Everything makes us believe that should the awareness of this threat subdue, the fight for political, economic and technologic leadership would no longer be arrested by armament technology and strategic motivations.

We are living in a period of political, strategic and technologic changes whose interactions will affect the history of the world in a manner which cannot be foreseen even at medium term.

The Western world cannot give a positive response, based on a project and an active policy, to the dynamism of the policy of the new Soviet leadership. Western Europe, reduced from centre of the world to province of empires and divided by its centre-eastern appendix, but still cultural, economic and commercial centre of the world, is concerned over its fate. The American nuclear warranty which has protected it for forty years seems threatening and hardly credible, though still necessary. It has denationalised safety and defence and has thus accustomed Europeans to a comfortable condition of dependence. For Europeans, however, the "zero option" puts a definitive end to the "zero cost defence" period. The dreams of the super-national empires and of the "Holy Alliance" of Yalta, intended to guarantee safety, peace and development to the industrialised world, are fading away. Both the USA and the USSR are behaving more and more as nations rather than as capitals of super-national empires.

Their relative power over their ruling area is dwindling. Not only is it dwindling from an economic point of view, but also ideologically. As super-national capacity wears out, the request for national references emerges with more and more strength. In Europe it is corrected and completed by uniformity of interests and culture. A true process of unification, however, runs up against two problems: the German problem and the impossibility of giving a European significance to French and British nuclear deterrents, without France and the United Kingdom giving up the "sanctuarisation" of their territories. A Europe of people has proved an utopia, replaced by a Europe of governments; General De Gaulle's idea of a Europe of Countries is gaining more and more ground.

Even if we are not exactly entering a post-nuclear area, as Edward Luttwak, one of the most pessimistic theorists of the American decline, defines it, it is quite certain that the parameters characterising the present strategic situation are changing at a growing pace. Churchill's statement that "in the nuclear era, safety is the daughter of terror and survival the sister of destruction" loses validity.

The "bomb" is no longer a deterrent: its function is gradually being reduced to that of dissuading from using the "bomb". The task of conventional forces is becoming a central one, even in the USSR, where to the late 60's, strategy took up the doctrines of Field Marshal Sokolovski on the chances of a nuclear victory. In 1984, these were definitely buried by Marshal Ogarkov. The revised Soviet doctrines once more confirm the value of the fact that dissuasion can be but a relative concept, and not an absolute one, and that it must be based only on the actual capacities of defence.

With the predominance of nuclear weapons and a more or less perfect situation of bipolarism, the logic of politics, especially as regards Europeans, had been subjected to that of strategy, thus inverting the relation between politics and war underlined by Clausewitz and by classical strategic thought: talk *about* war had become talk *of* war as André Glucksmann effectually put it. The politicisation of strategy responded to the militarisation of politics as sometimes did techniques and principles of employment of weapons, though most of the relative strategic theories were more declaratory than real.

Nowadays, the paradoxes dear to the nuclear strategic thought of the MAD (Mutual Assured Destruction) period lapse: the idea was to make war impossible by making it technically possible (think the unthinkable); maintain and not lower one's vulnerability to offence by stabilising dissuasion; base safety on climbing to extremes and thus on the possibility of destroying whatever one intends defending. Assent to a peace based on the balance of terror has dwindled, but we still cannot see other solutions. Therefore, as Lawrence Freedman says, "emperor dissuasion is naked, but nonetheless an emperor". But for how long? What are the alternatives? Does this change in the situation mean a transformation of the political objectives of safety?

In these days of uncertainty, the challenge to the political and strategic thought is to depose the emperor without compromising peace and exposing safety to risk.

That of safety once again becomes a real problem which Europe can no longer hope to solve by entrusting all responsibility to the United States and relying on its nuclear umbrella. Europe's reactions and anxieties over the fact that the "zero option" may make the crisis of the "flexible response" strategy official and reach a "decoupling" (or, better still, a conditioned "coupling") between the defence of Europe and that of the United States, delay an evolution which can certainly not be stopped. We cannot ask the United States for what it is no longer able to give and has no intention of giving.

Nato's attempt to make up for the lesser credibility of nuclear dissuasion with the development of conventional forces, kept tightly linked with nuclear weapons is a more consistent response, though partial and temporary. Time may be gained, but this is no lasting solution for the safety problem of Europe, more and more denuclearised, except for French and British territories. Of course, nuclear weapons cannot be disinvited. The only role, however, they will still be able to play is that of dissuading the enemy from a nuclear initiative. Dissuasion by means of the bomb will turn into a simple dissuasion from the bomb and no longer from war. In the East as in the West the classical strategic thought and the traditional idea of dissuasion based on the possession of a real defensive capacity ("si vis pacem para



bellum") enjoy great favour. Important contributions such as those of the so-called movement for military reform in the United States and the re-establishment of the operational strategy in the Soviet Union by Marshal Ogarkov and general Akromeev may be added to the theories on conventional dissuasion and defence (territorial and/or manoeuvred) in depth, developed by Western strategic thought, particularly German.

Negotiations on the control and limitation of conventional weapons will only give a partial response. In the negotiations on nuclear weapons an agreement between the two superpowers may actually be reached. However, as regards conventional and chemical weapons, problems are more complex and perspectives more uncertain, because conventional weapons may actually be employed and are thus much more flexible and dangerous than nuclear ones, also because the effects of technologic innovation in the conventional field are much more destabilising than in the nuclear sector. In the conventional field the ratio of forces expresses only part of the reality: there is no causality relation between technical and material input and operational output. The so-called "imponderable factors" of war play a decisive role. Moreover, the ratio of forces has no meaning in itself, but in relation to political and strategic objectives compared. Whoever defends himself and thus leaves the enemy the initiative of operations and must protect his territory, needs a greater quantity of forces than the enemy, who may concentrate them wherever he intends carrying out the final effort. The defensor, however, may change his mind and turn into an aggressor. It is a vicious circle without solution.

There are no technical solutions which may guarantee the mutual safety of the two blocs. If the West unilaterally adopted the so-called "defensive defence", proposed in Germany, it could not defend itself efficiently from an attack by the Soviet armoured forces and artillery. But if this system were also adopted by the USSR, it would inevitably find itself in potential conditions of inferiority in a mobilization of superior human, industrial and technologic resources of the Western world. We cannot get out of this dilemma which sees the Soviet Union more or less in the same situation in which Germany found itself after 1870, made to maintain consis-

tent forces in times of peace and foresee their offensive employment at the beginning of operations for a rapid solution of a conflict, before being put in a condition of inferiority by the greater resources which the enemy could mobilize. For these reasons negotiations for disarmament and limitation of conventional weapons have so far not gone beyond the stipulation of "safety and confidence measures" acting on "operational" dimensions but not on the "structural" dimensions of safety. Of course, this is no small progress. The above measures lessen the possibility of a surprise attack and make the administration of the crisis more reliable and rational. Only a change in Soviet society (which would surely mark the end of the power of the present leading class if not of communism) and the USSR's economic co-operation with Western Europe (which considering the dynamism of the West could give rise to the economic "occupation" of the satellite countries of central-eastern Europe first and later of Russia itself by Europe in competition with the United States and Japan) could lead to the re-unification and neutralization of Germany and the withdrawal of Soviet and American forces from Europe. A development of great importance which may not be foreseen or planned in advance and which in the medium term, may be destabilizing for the safety of Europe, considering the manifold economic and political interests involved and likely to prevent or delay it by all means and at all costs.

After the second World War the reality of war (and of peace) had given rise to a process of collective removal in Western European countries. The American nuclear warranty had permitted culture, social organisation and the attributions of the national state to reject the phenomenon of war. The alliance with American leadership had denationalised safety. In the United States there was talk of national safety, while in Europe one talked of "collective safety" with reference to trans-Atlantic relations and of "international safety" as regards bipolar relations USA-USSR. Two of the four main European States, that is Italy and Germany, had approved in their constitutions the State's solemn renouncing what had always been considered the most typical act of sovereignty, that is resort to war for self-protection of one's own interests. Only recently did the above two countries look into

the problem of making the executive take up the actual national political-strategic leadership which had here to fore been left completely to the chain of command and decisions of the Atlantic Alliance. Likewise did the technical problem of the joint force integration of the military summit arise. The increased self-sufficiency of the single Armed Forces was and remains functional even for a greater integration within the Alliance, while an increased joint force unification permits the development of a military and operational planning and general policy more markedly national.

In Europe, moving towards the uncertain stage of non-nuclear safety, the differences with the United States and in the national interests of the single European societies are coming up once more. So is the space and the function of the State as imputation centre of national interest and as regulator of particular interests, the settlement of which may no longer be assured only by the rules of the market. It is in this historic setting that the demand for a political culture able to face the historic possibility of war returns. Developed societies discover that their own mutual and national interests cannot be preserved from the risk of violence. Once more war must be "thought" as the integrating part of the historic process, as regards the factors that may produce, nourish and govern it.

This book is different from the previous ones — "Il Pensiero strategico" (Strategic thought) and "Sicurezza e difesa" (Security and Defence) because it does not analyse the contribution of science and non-military factors to the strategic culture and to the policy of defence, but the space that political, human and social sciences devote to the problem of war in their specific setting and under their particular point of view.

In the two previous books the authors analyse the cultural components of contemporary strategic thought and the non-military factors of the policy of defence and security, showing how these components and factors integrate in a completely new setting. In a certain sense, this book works in the opposite direction, taking the problems of war back to the original setting. This is absolutely necessary to give all this talk on war its specific comprehensibility.

Here too, as in the previous books, essays are not culturally and methodologically uniform, but they



develop mutual suggestions according to the manners of research and the particular sensitivity of each author. No general speculative philosophy on war in modern culture springs up from these essays, but a sufficiently representative fragment of the attitude of Italian contemporary culture as regards war as an intellectual problem. On the whole, all the contributions testify the effort national culture is carrying out to get rid of the conditioning of the specific cultural settings as well as that of the Anglo-Saxon internationalist thought. Not a foolish liberation, but one obtained through the critical analysis of talks on war produced within specific doctrines and different ideologic and cultural traditions. No question therefore of an empiric analysis, nor of a systematic survey back into literature, but of a well-aimed reconnaissance of the variety of doctrines and schemes existing in Italian culture.

The book is divided into three parts.

The first groups together essays analysing the political theories of war within liberal-democratic thought (L. Bonanate), the marxist thought (U. Curi and Stragà), modern catholic thought (R. Buttiglione) and the tradition of thought of political realism (P.P. Portinaro).

The second part is formed by essays which analyse the problem of war under the specific point of view of philosophy of law (S. Cotta), political philosophy (M. Cacciari, M. Donà, R. Gasparotti), moral philosophy (G. Baget-Bozzo), international relations (U. Gori), the economic theory (N. Bellin and P. Bianchi) and the historiographic theory (V. Ilari).

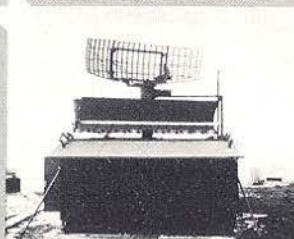
Finally, the third part concerns the sociologic analysis of relations between safety (national, collective and international) and supremacy of the State. It includes essays devoted to the attitude of the social state towards war (A. Ardigò), the relation between national interest and national safety (C. Jean), the relation between State

and war seen in terms of development of the political doctrines (R. Lizzi) and systemic pattern (C. Pelanda).

This book ends a first stage of research carried out in co-operation with the International Sociology Institute of Gorizia (Isig); this stage has been wholly dedicated to cultural information and the logic basis of strategic thought, of the policy of defence and safety and of the political, sociologic and philosophic theories of war, subjects which are more "metastrategic" than strategic. We intend opening a new stage of research with the books that will follow and which will concern the analysis of Italy's strategic role, its policy of safety and defence and its perspectives of re-organising the military instrument also as regards European defence integrated as far as possible with the different interests and national geo-strategic conditionings.

Carlo Jean

40 YEARS EXPERIENCE



SMA is a flexible company founded in 1943. Since 1948 has been active in design, development and production of electronic equipment for defence. Main activities are radars for ground, shipborne, airborne, missile applications and related display systems. The company broad spectrum permits the supply of turnkey systems tailored to the end-user needs.



SEGNALAMENTO MARITTIMO ED AEREO

SMA's basic product lines and business sectors include: High definition and discrimination coastal radar control stations, both for maritime traffic management systems and military application (anti intrusion, coastal defence, mine splash detection); Shipborne navigation /search radars devoted to low, very-low air coverage (anti sea skimmers); Missile active homing heads, provided with a variety of ECM devices, for SSM (OTOMAT MK2) and ASM (Marte MK2) applications; 360° coverage search and navigation airborne radars for helicopters and maritime

patrol aircraft; Standard Pod contained search radars for fixed wing aircraft to be employed in conjunction with ASM; Integrated search and tracking radars for A/A defence to be employed both on specialized trucks (OTOMAT) or on semi-mobile/fixed station for point defence; applied research aimed toward millimetric waves (up to 100 GHz) in active and passive sensors (radiometer); Duct analysis and electromagnetic propagation forecast.

P.O. BOX 200-FIRENZE(ITALIA)-TELEPHONE:055/27501-TELEX:SMARAD 570622-CABLE:SMA FIRENZE



V. Romano: "Locomozione fuori strada" Pitagora Publishers, Bologna, 1988, pp. 169, Lire 25,000.

The steady expansion of the use of complicated machines on different terrains in activities regarding agriculture, forests, industry, mines, sports tourism and the military field, etc., demands the solution of ever more specialistic issues.

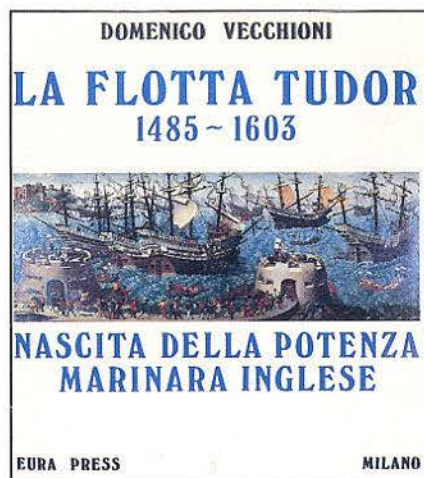
In fact, it seems undoubtedly important to know how far the terrain may be covered, how the various kinds of vehicles behave on the main obstacles, and examine the mobility of a vehicle designed to be used for cross country and thus single out the elements to be studied during the planning stage.

This is the reason why "Locomozione fuori strada" (Cross country locomotion) was written. The book, in fact, achieved by selecting and arranging the most interesting subjects dealt with by the Author during his teaching activity at the School of Specialization in Motorization of the Turin Politecnico, informs the reader on the most practical aspects of the various problems concerning cross country movement. After a historiographic introduction, the book examines the main problems of this particular aspect of locomotion, according to the most recent experiences, and deals with the kind of terrain, the performance of vehicles on obstacles, sinking ground and the presence of water and the future development of the sector, etc...

"Locomozione fuori strada", though not attempting to give a detailed analysis of such a vast and complex subject, clearly underlines the

possibility of a remarkable quality development of the vehicles designed for cross country use and points out how, being the project of the vehicle tightly connected with the characteristics of the ground, it is absolutely impossible to speak of a "universal vehicle". The manufacture of cross country vehicles designed for high standard performances is, however, subject to the growth of a precise demand, prerogative of those sectors which play a leading role in the achievements of technology: military and space enterprises.

Massimiliano Angelini



D. Vecchioni: "La flotta Tudor 1485-1603. Nascita della potenza marinara inglese", Eura Press Edizioni Italiane, Milan, 1988, pp. 150, Lire 18,000.

In this book the Author runs over the stages of the British naval policy underlining the contribution of the Tudor kings to the development of the Royal Navy.

The date which marks the definitive success of the British on the oceanic routes and the beginning of the development process which turned Great Britain into the world's first naval power goes back to 1588 when the Spanish fleet, sent by Philip of Spain to invade Britain, was defeated by the privateering fleet of Elizabeth Tudor.

About a century earlier, when Henry VII, first of the Tudor dynasty, became king, Britain was an island of shepherds living within a limited horizon: the sea was seen as an insuperable obstacle and an element of nature to be feared more than made use of.

When Elizabeth, the last reigning Tudor, died, the British had become able seamen and brave seafarers able to rival with the Spaniards who had undisputedly dominated the seas for centuries.

What factors turned pastoral Britain into a maritime country in only one century?

How did the "little island" become the "Mistress of the seas"?

What was the real contribution of the Tudor dynasty to the success of Britain as a naval power?

Domenico Vecchioni gives an answer to these questions bearing in mind the historic events which shook the life of Great Britain: the discovery of the ocean routes towards the "new world" and the innovating drive of the Renaissance.

The Author concludes by saying that if Great Britain rose above all other Nations it was mainly due to the personal action of the Tudors who succeeded in absorbing the spirit of the Renaissance and taught the British people that the fate of Great Britain lay in the sea. The book also traces the profiles of some of the greatest "privateers" of the period.



G. Caforio: "Sociologia e Forze Armate. Sviluppo storico della sociologia della istituzione militare". Maria Pacini Fazzi publisher, Lucca, 1987, pp. 203, s.i.p.

There are two main reasons which brought the author to write this book.

The first is that when, as a professional of defence, he decided to investigate on the nature and development of the military institution, he

looked for a survey which would give him a global view of what had been said, thought and written on the subject, finding, however, nothing of interest.

The second reason arises from the observation that though the military fact and the organization of the military society are always mingling with the cultural evolution of man in his various manifestations, no scientific investigation into the military phenomenon as factor of many basic aspects of an associated and organized life has been carried out.

After the birth of sociology as a science, we have had to wait for the investigations and theorizations of the American school before achieving a special sociology devoted to the military universe.

Before this rather recent development, contributions to sociological investigation on the military institution had been seen within the different disciplines (history, strategy, philosophy, social psychology, etc.).

This special sociology, however, did not follow some kind of academic planning, but developed on its own, often influenced by practical pressing demands. If we add the differences in the cultural background and environmental origin of the lovers of this subject, we realize how important it is to revise and compare what has been said and written on the subject dealt with by special sociologists.

The book is divided into three parts. The first deals with the analyses of the founders of the main trends showed by the subject under reference.

The second mentions a few of the main American scholars who have founded schools of thought.

The third part speaks of the Italian scholars of this special sociology.

The book does not speak of scholars of countries such as France, West Germany and Great Britain because, though their essays are important, they have not, according to the author, given rise to a school which could replace the American one, but have applied the principles of the latter to the single national realities.

In the notes to the book Giuseppe Caforio addresses the leading Cadres, the officers, outlining how the organizational patterns developed, during the years, by the military institution have been adopted and absorbed by the general society.

At a time when the identity crisis of the military profession is evident, the above means that nothing exempts

the officers from seeking new methods of collective organization, within the Armed Forces and their relations with the society they belong to, aware that the general crisis of the most advanced societies may once more require to move the studied patterns from one sphere to another.

Augusto Mastrofini



Various Authors: "La sicurezza nel Mediterraneo", No. 101 of the four-monthly review "I problemi di Ulisse", published by Valerio Levi, Rome, 1986, pp. 221, Lire 15,000.

Disputes, tensions, the seriousness of certain situations and the intensification of terroristic attacks and unlawful restraints make the Mediterranean one of the most pugnacious and unstable regions of the world.

This situation, which often affects the vicissitudes of national policy and even touches the sphere of personal safety, is under the eyes of everybody.

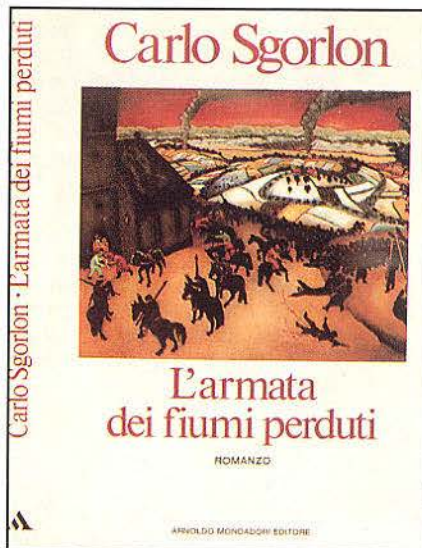
The increased sensitivity towards the problems concerning Mediterranean safety is worldwide and international initiatives designed to analyse the problems to be faced and co-ordinate the decisions of the Countries concerned are now being encouraged.

This book is the result of this general interest and avails itself of the contribution of two experts whose specialized knowledge is based on

complex experiences: General Luigi Caligaris, long-time commentator of military strategy and the diplomat Carlo Maria Santoro, professor of international relations at the University of Bologna. The book aims at analysing the trends without pursuing the events and underlines the main structural elements and some of the likely scenarios of the safety in the Mediterranean. It is divided into three parts corresponding to the general subjects under reference: the first and second part deal with the structural elements and the likely scenarios of the safety in the Mediterranean, while the third part examines the potential role of Italy. Documentation material closes the customary appendix. The following sentence drawn from the leading article deserves special mention:

"If the opposing forces and military strategies, in the Mediterranean just as at planetary level, each aim at some idea of safety, it is but a particular and instrumental objective: the final and more general objective, at planetary level just as in the Mediterranean, through the reduction of the elements of tension, is peace".

Ferdinando Schettino



Carlo Sgorlon: "L'armata dei fiumi perduti", 1986, pp. 310, Lire 18,000.

Carlo Sgorlon was born in Cassacco, Udine, Friuli in 1930 and is the author of many novels and essays. In "L'armata dei fiumi perduti" he writes of the vicissitudes of the Cossack Army in Friuli during the last world war. These vicissitudes, practically ignored



untill recently, had surfaced in 1984 in Claudio Magris' novel "Illazioni su una sciabola".

The writer goes deep into the "unsettled and ruthless" period of war which is the "triumph of death" and where the sentiment of life is threatened by an evil omen. The Cossacks, proud, barbaric, innocent, pugnacious and loyal people, accepted the rise of the Bolsheviks in Russia as the advent of the Antichrist. They then began a series of sufferings and migrations in the illusion of being able some day to go back to the green valleys of Terek, along the Hussur or the Amur (the lost rivers), in Turkestan or on the Baikal.

When Germany attacked Russia,

they started serving Hitler wo, cynically, promised them a new Motherland, Carnia, which was to represent the new Kasakenland. Thus, in the Spring of 1944, men, women, children, the pope, "jurte" (tents), carts, horses, camels, scimitars and icons reached the valleys of Friuli. They were both homeless victims of war and invaders because they sided with the foreign tyrant. Akin to the people of Friuli, they made friends easily, but for the sake of survival they also had to rob and act with violence. The moving episode of Alda's death brings this cruel contradiction to its climax.

The curse reigns ruthlessly to the end. Urged by the partisans, in the im-

minent allied victory, the Cossacks, hopeless and decimated by the slaughter, once again start their sad migration and move towards Austria. Many, in a suicidal frenzy of rebellion against fate, prefer to throw themselves together with their women and children into the freezing waters of the Drava. The theme of homesickness for a Country free and in peace gives a vibrated, poetic note to the novel which is a large canvas crowded with people who, against a background of desperation, act a tale of love and death.

And Friuli represents all the places of the world where man suffers his ruthless destiny.

VTG 120

**Man portable
thermal camera
for observation
and aiming**

**OFFICINE
GALILEO**

MILITARY SYSTEMS DIVISION

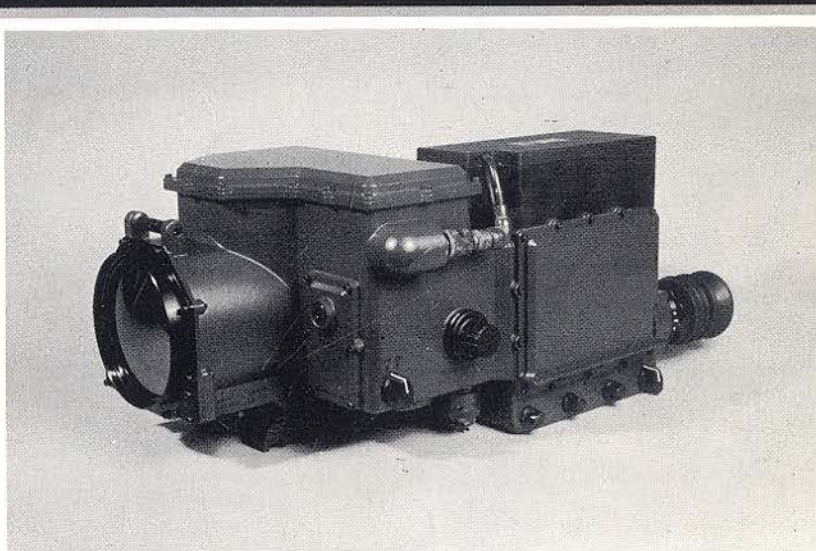
Via A. Einstein, 35

50013 CAMPI BISENZIO (FIRENZE ITALY)

Phone (055) 89501 - Telex 570128 Galileo I

Telefax (055) 8950600

GRUPPO
EFIM
**FINANZIARIA
E. BREDA**



A Company of the
OTO MELARA - BREDA MECCANICA BRESCIANA - OFFICINE GALILEO Consortium

VISION GALILEO NIGHT VISION GA



BIBLIOGRAFIA ITALIANA DI STORIA E STUDI MILITARI 1960-1984

CENTRO INTERUNIVERSITARIO
DI STUDI E RICERCHE STORICO-MILITARI
Istituto di elaborazione
dell'informazione del CNR Pisa

FRANCO ANGELI

Interuniversity centre for historic-military studies and research: "Bibliografia italiana di storia e studi militari. 1960-1984", (Italian bibliography of military history and studies. 1960-1984), Franco Angeli, Milan, 1987, pp. XXVII + 580, Lire 40.000

The Italian Bibliography of military history and studies, sponsored by the inter-university centre for historic-

military studies and research of the Universities of Padua, Pisa and Turin, drawn up thanks to the co-operation of sixty specialists and co-ordinated by Giuseppe Caforio, Pietro Del Negro, Filippo Frassati, Nicola Labanca and Giorgio Rochat, is intended to give a picture of the Italian historic-military production from 1960 to 1984 with an essential opening as regards surveys on military sociology and those subjects traditionally considered a supplement of military history, yet no less important. The first result undoubtedly regards quantity: three thousand titles in 25 years concerning Italian military history of the last two centuries are no small number, especially considering that daily newspapers, weekly and fortnightly magazines have been excluded together with several shorter articles published on military journals.

The second and more important contribution of this Bibliography is the documentary evidence of the richness and liveliness of the various manners of research into military history. The

main one is without doubt the traditional idea of re-constructing and analyzing the operations of the Italian Armed Forces in the various campaigns, but the different forms of anti-militarism, the pacifist movements and the contradictory problems caused by the prospect of a nuclear war must not be forgotten.

Research regarding the minor aspects and the reality of daily military life is another basic and often undervalued sector, sometimes confused with commercial collecting or without any particular purpose. This sector includes uniforms and individual weapons, barracks and the bolstering of the soldiers' morale, logistics and assistance.

All the works mentioned, complete of bibliografic indications and, in most cases, a brief comment, are supplied with key words with which to establish a detailed analytic index by means of which one may find the existing production by subject or period.

Ferdinando Schettino

OD/82 HAND GRENADE



The OD/82 hand grenade is a weapon of controlled effect and of delay type (4 ± 0.5 sec.). It may be employed both in offensive and defensive mode without adding or removing any of its components. The materials and technology employed in the manufacture of this grenade allow a constant range of efficacy and a safe distance in all operative conditions. The OD/82 hand grenade is the only hand grenade approved for service with the Italian Army. Weight of the hand grenade is 286 ± 5 grams, maximum length is 83 mm., maximum diameter is 59 mm. Total weight of steel fragments is 70 grams. Probable efficacy of fragments at 5 m. results to be 85%, safety radius is 20 m. Weight of main charge is 112 gm. of compositions B.



LA PRECISA SpA
TEANO-ITALY

